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ABSTRACT

Each of the 12 issues of this 1999 publication contains 1 or more analyses of postsecondary educational opportunities. Titles of the individual analyses are: (1) Parental Educational Attainment and Higher Educational Opportunity (number 79); (2) Refinancing Higher Education, 1952 to 1997 (number 79); (3) State Outreach Efforts to Students from Low Income Families, 1996 (number 80); (4) Why College? Private Correlates of Educational Attainment (number 81); (5) Refocusing Student Financial Aid: From Grants to Loans, from Need to Merit, from Poor to Affluent (number 82); (6) Metropolitan Status and Higher Educational Opportunity (number 82); (7) Chance for College for Dependent Students from Low Income Families by State 1992-93 to 1997-98 (number 83); (8) A Merit-Aware Model for College Admissions and Affirmative Action (William J. Goggin, number 83); (9) Changing Industrial Employment Effects on Men and Women 1939 to 1998 (number 83); (10) Hope and Lifetime Learning Tax Credits (number 83); (11) College Continuation Rates for 1998 High School Graduates (number 84); (12) The Decline of Need-Based Student Financial Aid 1978 to ? (number 84);(13) Educational Attainment and Income for Persons, Households, Cities and States 1940 to 1998 (number 85); (14) Educational Opportunity by Family Income 1970 to 1997 (number 86); (15) The Changing Face of America (number 86); (16) Tracking High School Graduation 1970 to 1998: Raising the Bar (number 87); (17) A Preliminary Report: FY2000 State Appropriations for Higher Education (number 87); (18) Unmet (and Overmet) Financial Need of Undergraduate Students (number 88); (19) Institutional Graduation Rates by Academic Selectivity and Low Income Representation (number 88); (20) Freshman to Sophomore Persistence 1983 to 1999 (number 89); (21) Institutional Charges and Family Income 1968 to 1998: Monitoring College Affordability (number 89); and (22) State Tax Appropriations for Higher Education, FY 2000 (number 90). Each issue contains charts and graphs. (SLD)

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Postsecondary Education OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 79 **Oskaloosa, Iowa** **January 1999**

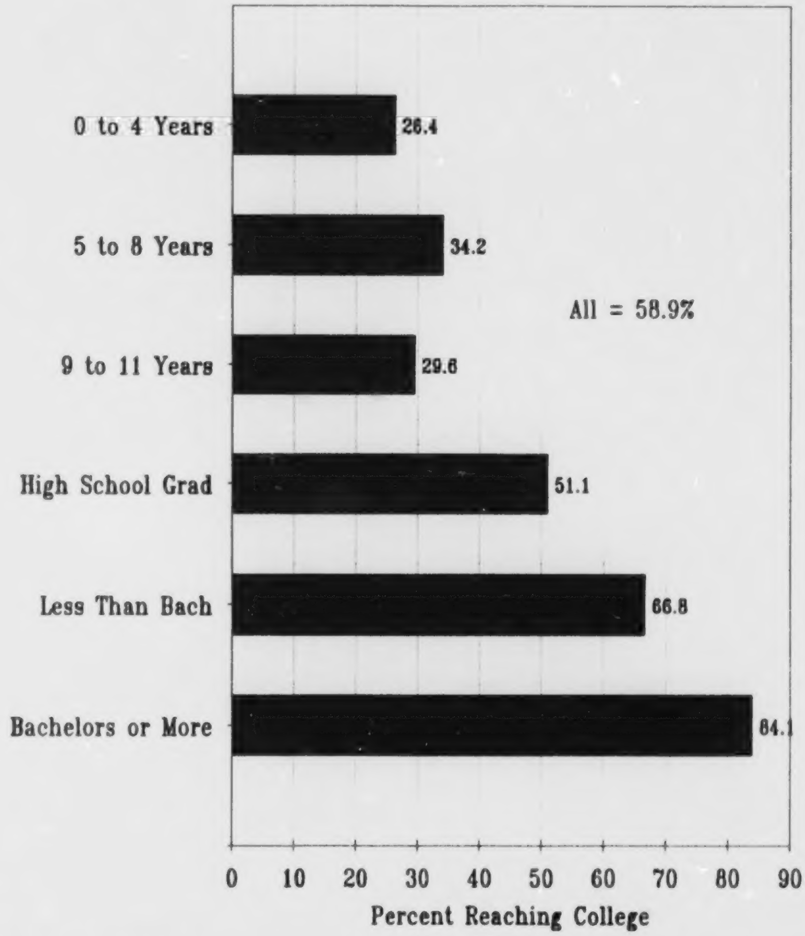
Parental Educational Attainment and Higher Educational Opportunity

Federal higher education policy recognizes certain student characteristics as limiting higher educational opportunity, and has created and funded programs to address these needs. These programs include student financial aid, to help needy students finance their higher educations, and supportive services, to help prepare and enroll students from low family income, first generation families to gain higher educational opportunity. In addition, federal higher education policy includes civil rights features that prohibit discrimination based on other student characteristics. These student characteristics are identified in the Higher Education Act of 1965 and in other federal legislation.

Here we focus on one characteristic of students identified in federal higher education policy: parental educational attainment. This student characteristic is specifically identified in the section of Title IV of the Higher Education Act that authorizes the five federal TRIO programs: Upward Bound, Talent Search, Educational Opportunity Centers, Student Support Services and the McNair Postbaccalaureate Programs. Eligibility for these programs is limited to students who come from families with incomes below 150 percent of the federal poverty level and where neither parent is a college graduate.

What our analysis of data show is that higher educational opportunity is strongly associated with parental educational attainment.

Chance for College for Dependent Family Members
18 to 24 Years Old by Educational Attainment of Householder
1996



Only about 30 percent of 18 to 24 year olds whose parents did not graduate from high school reach college, compared to about 85 percent of 18 to 24 year olds where the householder has a bachelor's degree or more from college.

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This pattern has persisted with only small changes over the last decade. However, analysis of the components of this chance for college reveals more important changes.

- At all levels of parental educational attainment, high school graduation rates are dropping.
- But among those who do graduate from high school, the proportion going on to college has been increasing over the last decade.
- As a result, chance for college at all levels of parental educational attainment has risen modestly over the last decade.

These trends and patterns to the data vary widely according to gender and race/ethnicity.

These and other important findings come from our analysis of data collected and reported by the Census Bureau. Additionally, another recent report published by the National Center for Education Statistics examines other data in great detail. Together these two studies offer important insight into higher educational opportunity for students from families with parents at different levels of educational attainment.

The Data

The data used in this analysis are collected in the October supplement to the Current Population Survey (CPS), administered by the Census Bureau. The CPS data are collected monthly from a national sample of about 50,000 American households to monitor employment and unemployment in the economy. Supplements to the monthly CPS are used to gather additional information on other characteristics of the population.

The most recent Census report from this survey is:

Day, Jennifer C., and Curry, Andrea E. (June 1998). *School Enrollment-Social and Economic Characteristics of Students: October 1996 (Update).* U.S. Bureau of the Census, Current Population Reports, P20-500. Washington, DC: U.S. Government Printing Office.

Here our analysis is descriptive. First, the educational attainment of dependent 18 to 24 year olds is described in terms of their parents' educational attainment for the most recent year of available data which is 1996. This description includes high school graduation, then college participation for high school graduates, and finally their product which is chance for college. Then our analysis described these trends over the last decade during which these data were compiled and reported in comparable terms. Finally we examine these data by gender and racial/ethnic groups.

Parental Educational Attainment

In October of 1996 there were 13,908,000 18 to 24 year old dependent family members. Of this total, 58.9 percent were either currently enrolled in college, or were no longer enrolled in college but had completed either 1 to 3 years of college or had completed 4 years or more of college. This means that they had both graduated from high school *and* continued their educations in college after high school.

Across levels of parental educational attainment, chance for college varied widely--mostly according to parental educational attainment. For dependent family members between 18 and 24 years the range in chance for college was from about 26 percent of those whose parents had just 0 to 4 years of elementary education to about 84 percent of those whose parents had a bachelor's degree or more from college. An 18 to 24 year old from a family with college-educated parents

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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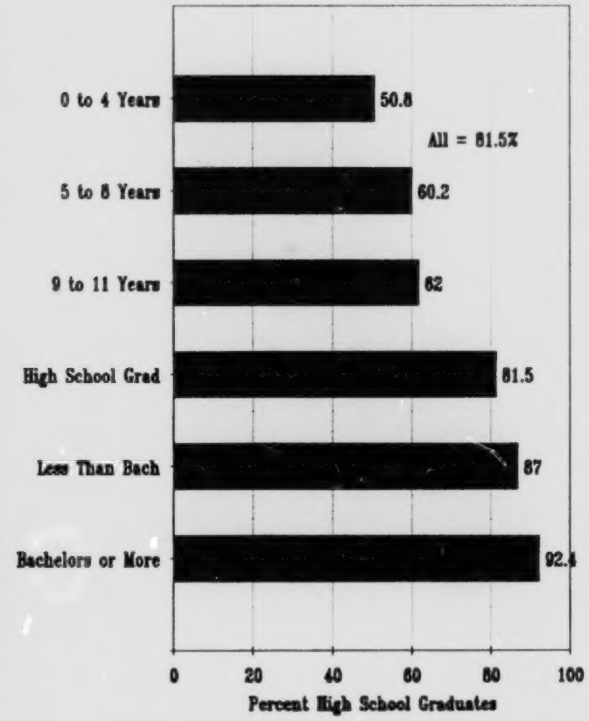
was nearly three times more likely to reach college than was a person whose parents had not graduated from high school. These data are shown in the chart on the first page of this issue of **OPPORTUNITY**.

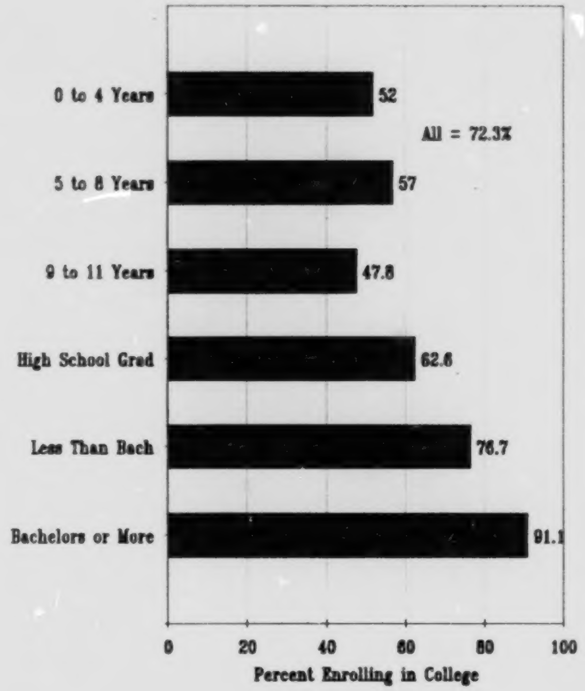
High school graduation. Of the total cohort of 13,908,000 dependent family members who were 18 to 24 years old, 11,329,000 were high school graduates by October of 1996. Chance for college is the product of high school graduation and college continuation rates. Among this cohort of 18 to 24 year old dependent family members, 81.5 percent had graduated from high school by October of 1996. An additional 1,231,000 members of this cohort were still enrolled below college and thus could still become high school graduates.

The rate at which this group had graduated from high school varied with parental educational attainment. As shown in the chart below, the high school graduation rate ranged from about 51 percent of those whose parents had zero to 4 years of elementary education to over 92 percent of those whose parent/householder had a bachelor's degree or more from college. As this chart suggests, whether the parents were high school graduates had a great deal to say about whether their dependent children were high school graduates.

High School Graduation for Dependent Family Members
18 to 24 Years Old by Educational Attainment of Householder
1996



College Continuation for High School Graduates
18 to 24 Years Old by Educational Attainment of Householder
1996



College continuation. The college continuation rate for those who had graduated from high school was 72.3 percent in October of 1996. This includes those currently enrolled (76 percent of those who reached college), those no longer enrolled but who had completed less than a bachelor's degree (17 percent) and those no longer enrolled who had completed a bachelor's degree or more (7 percent).

Parental educational attainment plays a highly influential role here too. College continuation rates generally increased with parents' educations. Among dependent family members between 18 and 24 years who had graduated from high school, the college continuation rate ranged from about 48 percent of those whose parents reached high school but did not graduate, to 91 percent of those whose parents had a bachelors degree or more from college.

Of those no longer enrolled in college but having completed a bachelor's degree or more, 5.8 percent of those whose parents were not high school graduates reported having a bachelor's degree. This compares to 6.3 percent of those who had entered college whose parents were high school graduates, 5.1 percent of those whose parents had less than a bachelor's degree, and 2.5 percent of those whose parents had a bachelor's degree or more.

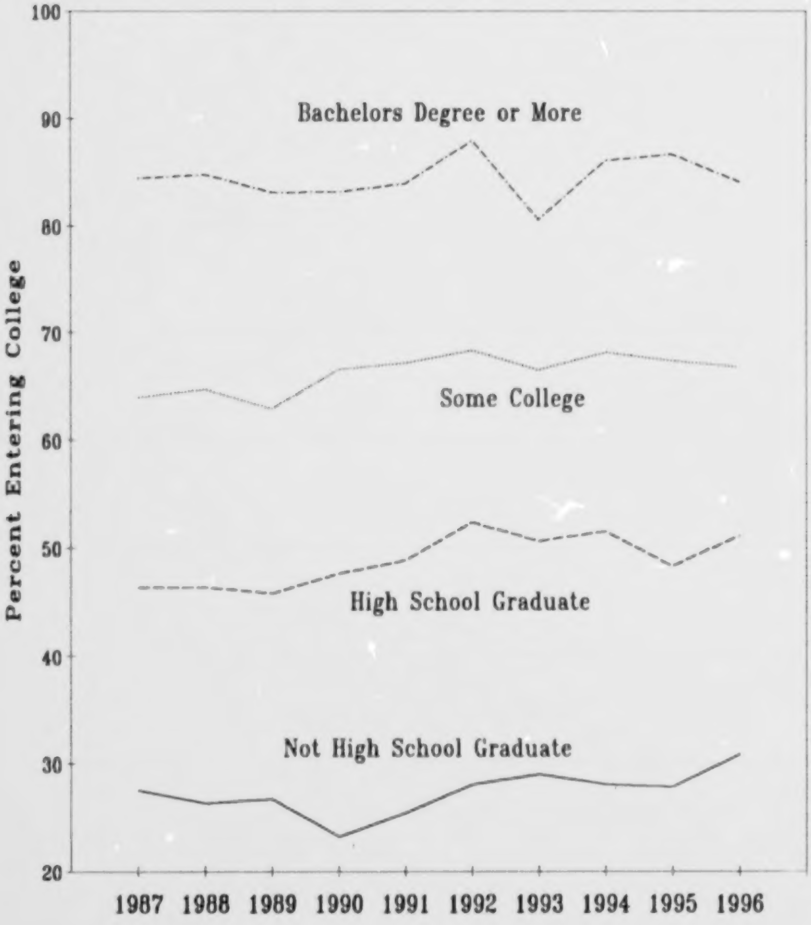
Trends
Comparable data on educational participation by parental educational attainment has been reported by the Census Bureau since 1987. These aggregate data hide more than they reveal.

Over all levels of parental educational attainment, the chance for college among dependent family members ages 18 to 24 years increased from 52.2 percent in 1987 to 58.9 percent in 1996--an increase of 6.7 percentage points. However, as shown in the chart on this page, chance for college by levels of parental educational attainment show smaller changes over this period:

Change in Chance for College by Parents Education 1987 to 1996

Parents Education	1987	1996	Change
Not HSG	27.5%	30.8%	+3.3%
HS Grad	46.3%	51.1%	+4.8%
LT Bach	63.9%	66.8%	+2.9%
Bach or +	84.4%	84.1%	-0.3%

Chance for College by Parental Education for Dependent Family Members 18 to 24 1987 to 1996



The difference between the overall increase in chance for college and the smaller increase in rates by parental education is explained by the increase in parental educational attainment between 1987 and 1996:

Change in Distribution of Parental Educational Attainment 1987 to 1996

Parents Education	1987	1996	Change
Not HSG	25.4%	18.7%	-6.7%
HS Grad	37.6%	32.5%	-5.1%
LT Bach	16.5%	25.9%	+9.4%
Bach or +	20.6%	22.9%	+2.3%

This suggests that a substantial portion of the overall gain in chance for college between 1987 and 1996 is attributable to gains in the educational attainment of parents.

High school graduation. The first hurdle on the path to college is high school graduation. Here the news is not good at all. Among dependent family members between the ages of 18 and 24, the high school graduation rate declined from 82.6 percent in 1987 to 81.5 percent by 1996--a decline of 1.1 percentage points. This occurs during a period of rising educational attainment requirements in the labor force and when a national goal of a 90 percent high school graduation rate by the year 2000 had been adopted by the nation's governors.

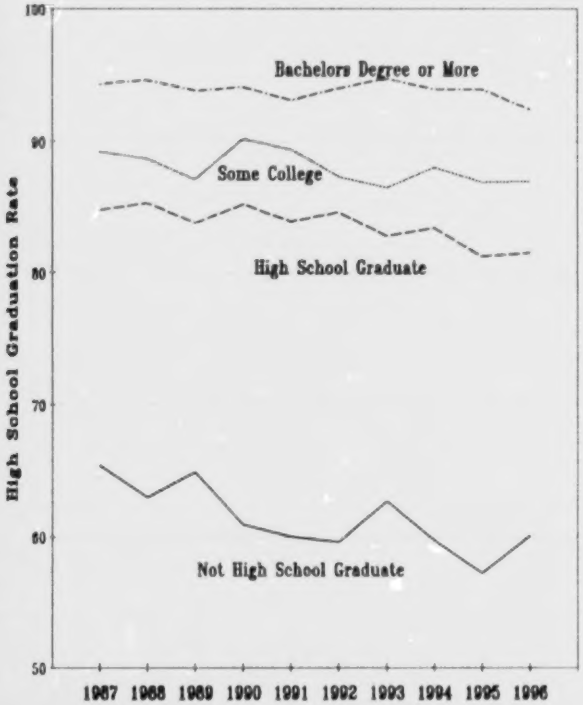
Our analysis of this decline in the aggregate rate suggests that some students may simply be taking longer to complete high school. For example, in October of 1987 980,000 dependent 18 to 24 year olds were enrolled below college. By October of 1996 this number had risen to 1,231,000. As a proportion of the population, this was 6.7 percent in 1987 and 8.9 percent by 1996.

By levels of parental educational attainment the numbers are more alarming. At each level of parents education, high school graduation rates declined. The declines were greatest in families with the lowest levels of parental education.

Change in High School Graduation by Parents Education 1987 to 1996

Parents Education	1987	1996	Change
Not HSG	65.4%	60.1%	-5.3%
HS Grad	84.8%	81.5%	-3.3%
LT Bach	89.2%	87.0%	-2.2%
Bach/+	94.3%	92.4%	-1.9%

High School Graduation Rates by Parental Education for 18 to 24 Year Old Dependent Family Members 1987 to 1996



Again we see the importance of increasing levels of parental educational attainment as ameliorating the declining high school graduation rates at each level of parental educational attainment. It could have been worse but for the improvements in higher educational opportunity made in the parents' generation. Sometimes it takes a few years to see the payoffs from investments in higher educational opportunity.

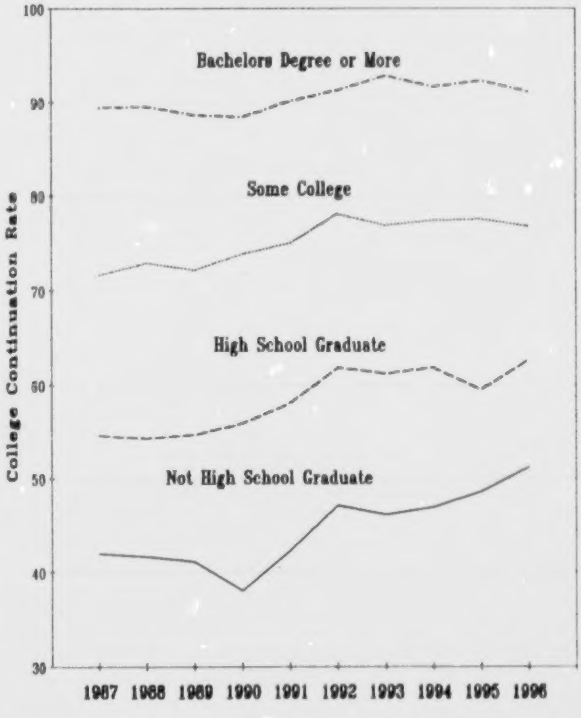
This is a message in the current era of rationed higher educational opportunity that policy makers would be wise to note and practice.

College continuation. The rate at which dependent 18 to 24 year old high school graduates continued their educations in college increased sharply between 1987 and 1996, from 63.3 to 72.3 percent. This increase in college continuation occured for dependent family members across all levels of parental income as shown in the table and chart.

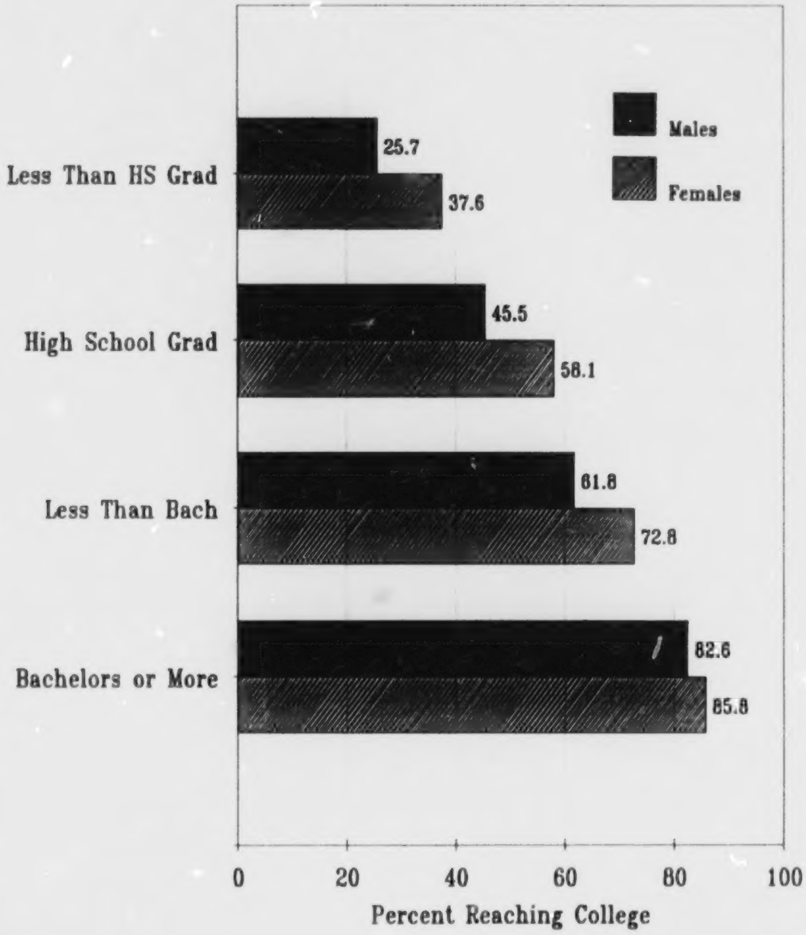
Change in College Coninutation for High School Graduates by Parents Education 1987 to 1996

Parents Education	1987	1996	Change
Not HSG	42.0%	51.2%	+9.2%
HS Grad	54.6%	62.6%	+8.0%
LT Bach	71.6%	76.7%	+5.1%
Bach/+	89.4%	91.1%	+1.7%

College Continuation Rates for High School Graduates by Parental Education for Dependent Family Members 18 to 24 1987 to 1996



Chance for College for Dependent Family Members
by Gender and Educational Attainment of Householder
1996



Gender

Among dependent 18 to 24 year olds, there are important differences in educational attainment for males and females. For males, about 54 percent both graduate from high school and go on to college. For females about 65 percent reach college.

These data do not reveal all that there is to tell. One issue buried in the data is that many young women marry, and thus leave the parents home to set up their own homes. While there were 7,639,000 dependent males between the ages of 18 and 24, there were just 6,269,000 females in this age range who were still dependent family members. Thus, our analysis lacks data on what has happened to the educations of young women who leave their parents' families. This may tend to exaggerate the gender differences in the data reported here.

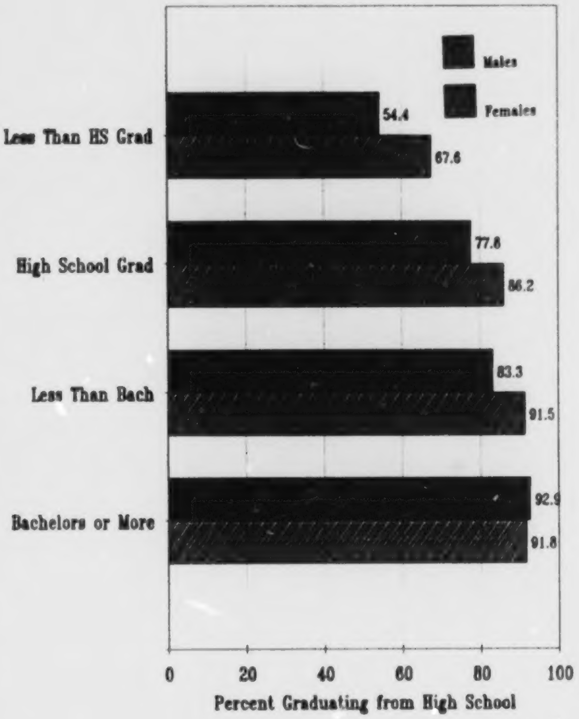
Across levels of parental educational attainment, dependent 18 to 24 year old females are consistently more likely than males to reach college. The difference in the chance for reaching college between dependent females and males is more than 10 percent for children of high school and some college-educated parents, and about 18 percent for those with parents who have less than a high school education.

High school graduation. Over all levels of parental educational attainment, in 1996 78.1 percent of dependent males between 18 and 24 years of age were high school graduates. The comparable figure for females was 85.6 percent. Female dependent family members are more likely than males to be high school graduates at most levels of parental education below the bachelor's degree.

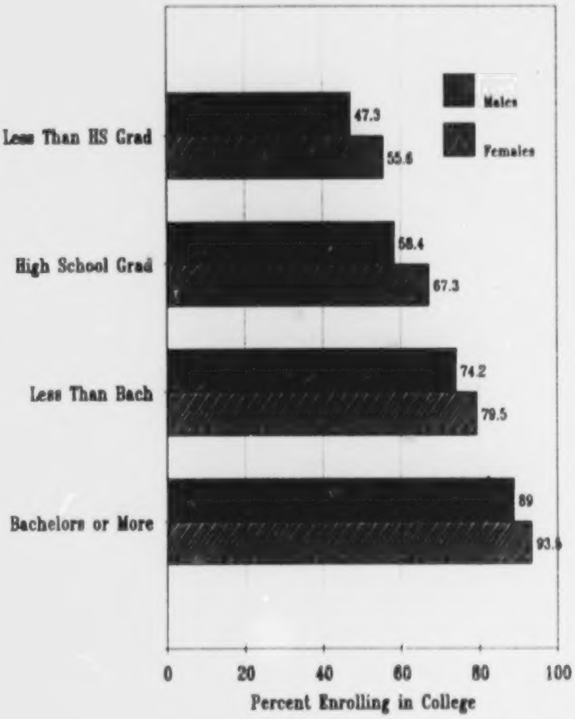
For males the high school graduation rate ranged from about 54 percent for those from families where the parents' educational attainment was less than a high school graduate, to nearly 93 percent where the parents had a bachelors degree or more. For females the range was from about 68 percent to nearly 92 percent across the same range of parental educational attainment. The difference between the female and male rates of high school graduation was greatest at the lowest levels of parental income, and nearly equal at the highest.

College continuation. Among those who graduated from high school, the college continuation rate for males was 69.3 percent in 1996, compared to 75.7 percent for females. Again, at each level of parental educational attainment, the college continuation rate for female high school graduates exceeded the rate for females.

For males the college continuation rate ranged from 47 percent for those whose parents had the least formal education to 89 percent for those with the most. For females the range was from 56 to 94 percent across this range of parents' educations. The females advantage over males was greatest among those with parents who



High School Graduation for Dependent Family Members
by Gender and Educational Attainment of Householder
1996



College Continuation for High School Graduates by
by Gender and Educational Attainment of Householder
1996

had a high school education or less, and least among those whose parents had at least some college education.

Race and Ethnicity

Our final analysis of the Census data examines chance for college across racial and ethnic classifications of the population of dependent family members ages 18 to 24 years.

In this analysis we rework the published Census data to derive other more complete and mutually exclusive groupings of the population. The Census Bureau reports its racial/ethnic data in the following categories:

total
white
black
Hispanic (may be of any race)

We recalculate our data in the following classifications from those reported above:

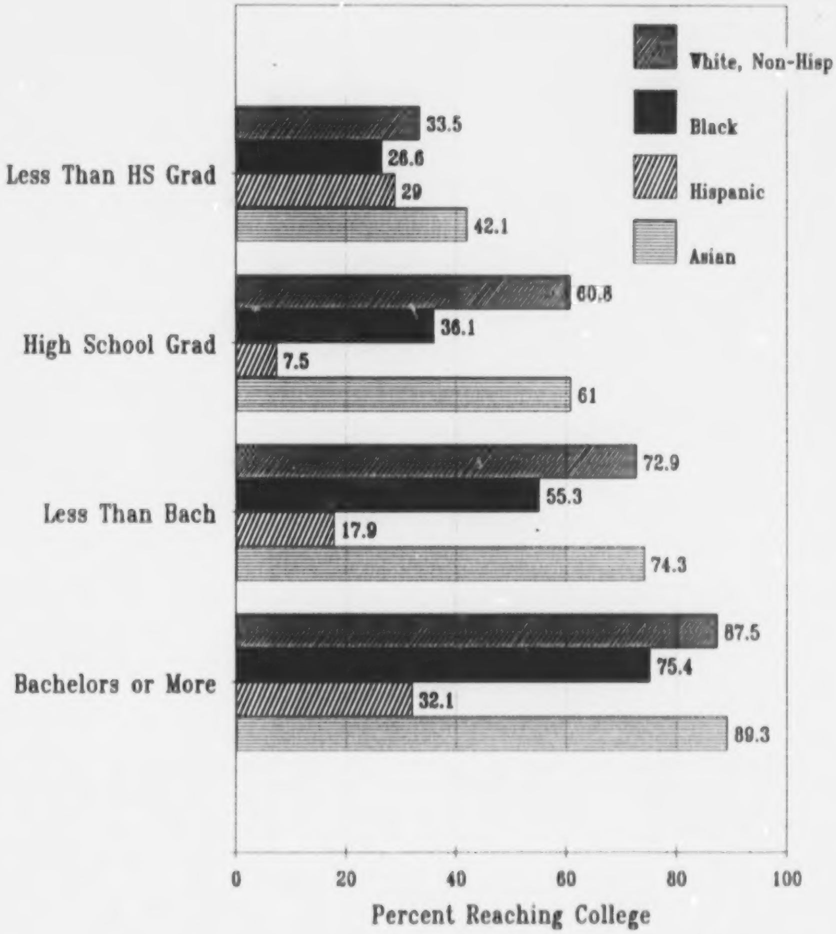
white, non-Hispanic
black
Hispanic
other race (mainly Asian)

These classifications are all-inclusive and mutually exclusive. They require the following assumptions. First, all Hispanics are whites, and thus subtracting Hispanic population data from white data yields non-Hispanic whites. Second, other race is derived by subtracting white and black from total. This other race category includes Asians and American Indians. It is primarily Asian and the very high educational attainment rates reflect this.

The chance for college by these racial/ethnic categories among dependent 18 to 24 year olds in 1986 was 71.4 percent for those of other race (mainly Asian), 68.7 percent for non-Hispanic whites, 43.1 percent for blacks and 22.4 percent for Hispanics. Asians and whites were more than three times as likely as were Hispanics to reach college as dependent family members by ages 18 to 24 years.

For non-Hispanic whites, blacks and Asians, chance for college increased directly with increases in parental educational attainment. Among non-Hispanic whites, the chance increased from 34 to 88 percent from lowest to highest parental educational attainment. For blacks the increase was from 27 to 75 percent. For Asians it was from 42 to 89 percent. Controlling for parental educational attainment, the differences between non-Hispanic whites, blacks and

Chance for College for Dependent Family Members by Race/Ethnicity and Educational Attainment of Householder
1996



Asians were relatively small at each level of parental educational attainment.

Hispanics showed a very different pattern from the above three groups in chance for college across levels of parental educational attainment. Here, chance for college actually decreased--sharply--from those whose parents were not high school graduates to those whose parents had graduated from high school. The decline was from 29 to 7.5 percent. Chance for college rose to just 17.9 percent among those whose parents had less than a bachelor's degree from college, and to 32.1 percent among those whose parents had a bachelor's degree or more from college. The rates for Hispanics are stunningly low compared to those for non-Hispanic whites, blacks and Asians.

High school graduation. Among 18 to 24 year old dependent family members, high school graduation rates varied by race and ethnicity. In 1996 they were 88.2 percent for non-Hispanic whites, 86.0 percent for Asians, 73.5 percent for blacks and 54.5 percent for Hispanics.

Of course, within each group high school graduation rates were related to parental educational attainment.

- Among non-Hispanic whites, high school graduation rates increased from 63 percent of those whose parents were not high school graduates to 94 percent of those whose parents had a bachelor's degree or more.
- Among blacks, high school graduation rates ranged from 58 percent of those whose parents were not high school graduates to 90 percent of those whose parents held a bachelor's degree or more.
- Among Asians, the high school graduation rate increased from 63 percent where the parent was not a high school graduate to 94 percent of those whose parents were college graduates.

The obvious anomaly in this group is the Hispanic population. Only among those who came from families where the parents were not high school graduates did the high school graduation rate look similar to the rates for non-Hispanic whites, blacks and Asians. At every higher level of parental educational attainment, Hispanic high school graduation rates were far below those for each of the other groups--typically 30 to 40 percent below those of whites.

College continuation. Among dependent family members ages 18 to 24 years, college continuation rates also varied by racial/ethnic group. In 1996 the college continuation rate for Asians was 83.0 percent compared to 78.0 percent for non-Hispanic whites, 58.7 percent for blacks and 41.2 percent for Hispanics.

By levels of parental educational attainment, college continuation rates increased for non-Hispanic whites, blacks and Asians--but not for Hispanics:

- For non-Hispanic whites, college continuation rates increased from

53 percent among those whose parents were not high school graduates to 93 percent for those whose parents had graduated from college.

- For Asians these rates increased from 67 to 95 percent.
- For blacks these rates increased from 46 to 84 percent.

The Hispanic data tell a very different story. Here, the college continuation rate declined from 50 percent for those whose parents were not high school graduates, to 17 percent of those whose parents did graduate from high school. This rate then rose to 33 percent for those whose parents had some college, to a peak (?) of 53 percent among those whose parents were college graduates. Combined with the very low high school graduation rates, these data produce the extraordinarily low chance for college for Hispanics at all levels of parental educational attainment.

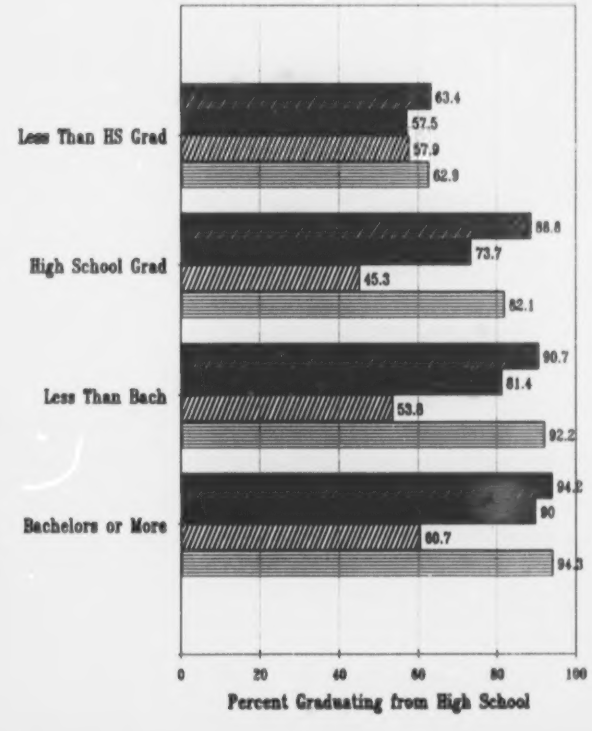
Conclusions

This study has illustrated the strong relationship between parental educational attainment and the educational attainment of their children. This finding applies to males, females, non-Hispanic whites, blacks and Asians. It does not appear to describe educational opportunity for the Hispanic population.

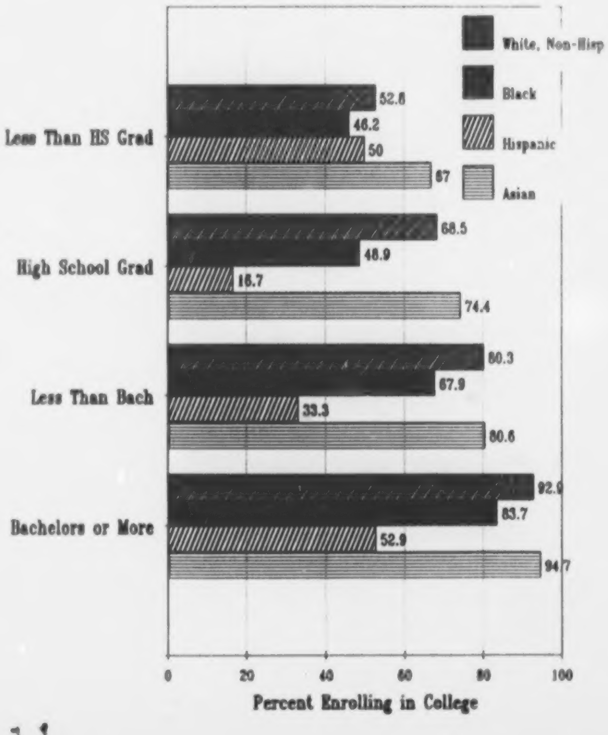
Federal policy recognizes limited parental education as both limiting higher educational opportunity, and worthy of funding large supportive services programs to offset the cultural disadvantage students from these experience. These federal TRIO programs include Upward Bound, Talent Search, Student Support Services, Educational Opportunity Centers and McNair Postbaccalaureate programs. The federal government spends more than $500 million each year on these programs, although estimates indicate that these programs reach only about five percent of the eligible low-income/first-generation population.

In addition, many states and communities provide their own pre-college outreach services. State examples include New York, New Jersey, Pennsylvania (the Tri-State Consortium), Indiana, Wisconsin, and others. Community examples include the Cleveland Scholarship Programs, Baltimore's CollegeBound Foundation, Miami's College Assistance Program and the Scholarship Foundation of Santa Barbara. In addition to significant state and community efforts to meet the financial needs of these students, these programs recognize that financial aid alone will not enable students to overcome cultural barriers to higher education. Families with little parental education need outside assistance to prepare their children for success in college.

High School Graduation for Dependent Family Members by Race/Ethnicity and Educational Attainment of Householder 1996



College Continuation for High School Graduates by Race/Ethnicity and Educational Attainment of Householder 1996



Refinancing Higher Education
1952 to 1997

The study of higher educational opportunity inevitably leads to the study of higher education finance. Under-represented groups in higher education usually face financial barriers to higher educational opportunity. These financial barriers have specific causes and cures. Public policy that seeks to broaden opportunity for higher education must coordinate financing policies such as state appropriations, tuition charges and student financial aid programs if these financial barriers are to be effectively addressed and managed.

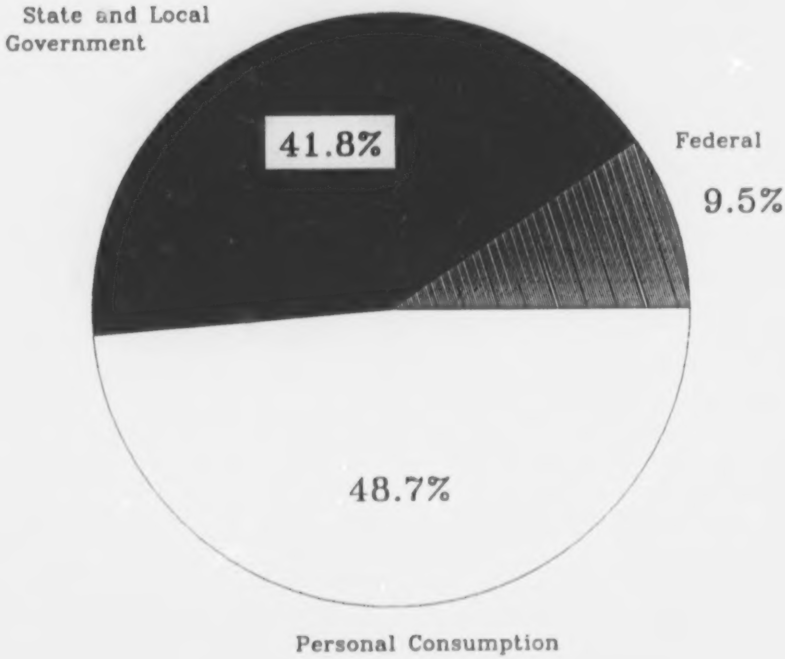
The post-World War II era has seen almost continuous change in the financing of American higher education. In an important sense higher education has been constantly refinanced since 1952 and continues to be refinanced each year with new rounds of federal and state budget actions and tuition setting.

- After World War II, up until about 1975, the combined efforts of those who paid tuition and those who paid taxes to support higher education combined to greatly expand total investment in higher education, expressed as a proportion of Gross Domestic Product.
- After about 1975, that combined investment stagnated and remains in 1997 at about the same share of GDP that it was in 1970.
- The proportion of the total effort contributed by state and local governments increased up until about 1976 and has been declining steadily and substantially since then.
- The federal share of the total higher education funding effort increased up to about 1981, and has declined slightly since then.
- The student/parent share of the total declined up to 1980, and has been rising sharply through 1997.

Understanding this refinancing of higher education over the last two decades is vital to understanding the problems and issues of financing higher educational opportunity at the end of the 1990s. The loss of vision, commitment and understanding, particularly by state governors and legislators, has led directly to a rationing and redistribution of opportunity for higher education for students from different family income backgrounds. Students from high income families are least affected by this cost shift from taxpayers to students. But students from low income families have been adversely affected, mainly in college choice and completion behaviors.

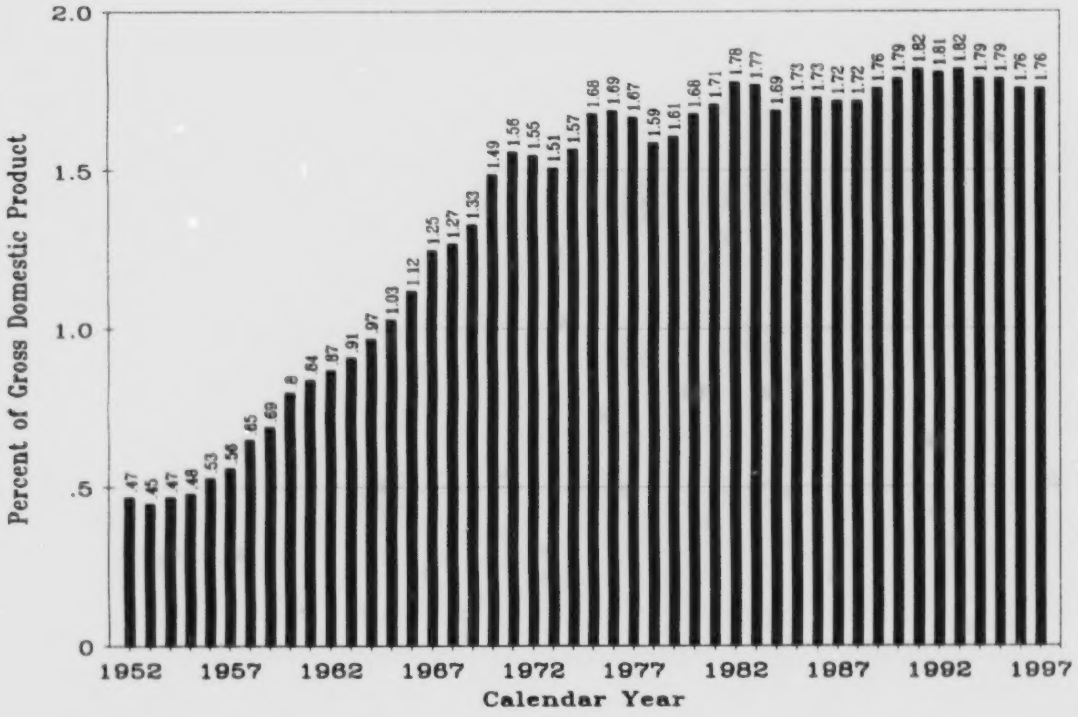
Higher education is financed by students, their parents, and taxpayers at the local, state and federal levels of government. However, during the 1990s while higher education has been

Revenues by Source for Higher Education
1997



Total: $142,900,000,000

Higher Education's Share of Gross Domestic Product 1952 to 1997



growing in importance to private and social welfare, the combined efforts of students, their parents, federal, state and local government taxpayers have produced a declining investment in higher education expressed as a proportion of Gross Domestic Product.

In this analysis we review the most recent data from the National Income and Product Accounts of the United States. These data offer many powerful insights into the refinancing of higher education that has occurred over the last 45 years. These data also identify what is going on in the budgets of state and local governments that has had such a profoundly negative impact on the financial support provided to public colleges and universities and the resulting prices public institutions charge students.

The Data

The National Income and Product Accounts of the United States represent federal efforts to measure the market value of the goods and services produced in the economy each year. These data are prepared by the Bureau of Economic Analysis, a unit of the U.S. Department of Commerce.

These data are published in publications of the Bureau of Economic Analysis. These historical data were last published in:

U.S. Department of Commerce. Bureau of Economic Analysis. *National Income and Product Accounts of the United States, 1929-94: Volume 1.* Washington, DC: U.S. Government Printing Office, April 1998.

The most recent revisions and extensions of the key tables used in this analysis appear in the monthly *Survey of Current Business*, published by the Department of Commerce, Bureau of Economic Analysis. In particular the key 3.16 and 3.17 schedules appear typically in the October issue for each year.

Compared to the data produced by any other federal agency, the NIPA data are extraordinarily fluid and unstable. They are constantly revised and redefined. Preliminary estimates for the most recent years are revised annually. Presumably these revisions improve the measurement and understanding of the performance of the national economy. But they also

Higher Education's Share of Gross Domestic Product and Distribution of Higher Education Funding Responsibilities

1952 to 1997

(dollars in billions)

		<---Personal Consumption---->				<-----Federal Government------>				<---State/Local Govrnment---->					
Year	Gross Domestic Product	Total	High Educ	HEd % of PC	% of H Ed	Total	High Educ	HEd % of FG	% of H Ed	Total	High Educ	HEd % of SL	% of H Ed	Total Higher Educ.	HEd % of GDP
NIPA Table	1.1	2.4	2.4	Calc	Calc	3.16	3.16	Calc	Calc	3.17	3.17	Calc	Calc	Calc	Calc
1952	$358.6	$219.7	$1.0	0.46%	59.2%	$63.3	$0.0	0.00%	0.1%	$20.1	$0.7	3.42%	40.7%	$1.7	0.47%
1953	$379.7	$233.5	$1.0	0.43%	58.9%	$68.1	$0.0	0.00%	0.1%	$21.3	$0.7	3.27%	41.0%	$1.7	0.45%
1954	$381.3	$240.7	$1.1	0.46%	61.4%	$65.5	$0.0	0.00%	0.1%	$22.9	$0.7	3.01%	38.5%	$1.8	0.47%
1955	$415.1	$259.1	$1.2	0.46%	60.8%	$66.9	$0.0	0.00%	0.2%	$24.9	$0.8	3.09%	39.1%	$2.0	0.48%
1956	$438.0	$271.9	$1.4	0.51%	60.2%	$70.0	$0.0	0.00%	0.1%	$26.9	$0.9	3.42%	39.6%	$2.3	0.53%
1957	$461.0	$286.7	$1.5	0.52%	58.2%	$78.4	$0.0	0.01%	0.2%	$29.7	$1.1	3.61%	41.6%	$2.6	0.56%
1958	$467.3	$296.3	$1.7	0.57%	56.4%	$84.9	$0.0	0.01%	0.2%	$33.2	$1.3	3.95%	43.5%	$3.0	0.65%
1959	$507.2	$318.1	$1.8	0.57%	51.2%	$88.0	$0.0	0.01%	0.3%	$35.4	$1.7	4.83%	48.6%	$3.5	0.69%
1960	$526.6	$332.2	$2.0	0.60%	47.7%	$89.6	$0.2	0.22%	4.8%	$38.4	$2.0	5.17%	47.5%	$4.2	0.80%
1961	$544.8	$342.6	$2.2	0.64%	48.0%	$96.1	$0.2	0.25%	5.2%	$42.0	$2.1	5.10%	46.7%	$4.6	0.84%
1962	$585.2	$363.4	$2.4	0.66%	47.2%	$104.4	$0.3	0.26%	5.3%	$44.8	$2.4	5.39%	47.5%	$5.1	0.87%
1963	$617.4	$383.0	$2.6	0.68%	46.1%	$110.2	$0.3	0.30%	6.0%	$48.1	$2.7	5.63%	47.9%	$5.6	0.91%
1964	$663.0	$411.4	$3.0	0.73%	46.9%	$115.4	$0.4	0.32%	5.8%	$52.4	$3.0	5.77%	47.3%	$6.4	0.97%
1965	$719.1	$444.3	$3.5	0.79%	47.1%	$122.4	$0.5	0.43%	7.1%	$57.2	$3.4	5.94%	45.8%	$7.4	1.03%
1966	$787.8	$481.9	$4.1	0.85%	46.6%	$140.9	$0.7	0.52%	8.3%	$64.3	$4.0	6.18%	45.1%	$8.8	1.12%
1967	$833.6	$509.5	$4.5	0.88%	43.1%	$160.9	$1.1	0.69%	10.6%	$72.5	$4.8	6.69%	46.4%	$10.5	1.25%
1968	$910.6	$559.8	$5.0	0.89%	43.2%	$179.7	$1.0	0.54%	8.3%	$82.6	$5.6	6.78%	48.4%	$11.6	1.27%
1969	$982.2	$604.7	$5.7	0.94%	43.5%	$190.8	$1.0	0.51%	7.4%	$93.7	$6.4	6.85%	49.0%	$13.1	1.33%
1970	$1035.6	$648.1	$6.6	1.02%	42.7%	$209.1	$1.3	0.60%	8.1%	$108.2	$7.6	7.03%	49.2%	$15.5	1.49%
1971	$1125.4	$702.5	$7.5	1.07%	42.7%	$228.6	$1.3	0.57%	7.5%	$123.7	$8.7	7.07%	49.8%	$17.6	1.56%
1972	$1237.3	$770.7	$8.2	1.06%	42.8%	$253.1	$1.3	0.51%	6.7%	$137.5	$9.7	7.05%	50.6%	$19.2	1.55%
1973	$1382.6	$851.6	$8.9	1.05%	42.7%	$275.1	$1.2	0.44%	5.8%	$152.0	$10.8	7.08%	51.6%	$20.9	1.51%
1974	$1496.9	$931.2	$9.6	1.03%	40.9%	$312.0	$1.3	0.43%	5.6%	$170.2	$12.6	7.38%	53.5%	$23.5	1.57%
1975	$1630.6	$1029.1	$10.3	1.00%	37.7%	$371.3	$1.9	0.50%	6.8%	$198.0	$15.2	7.66%	55.5%	$27.3	1.68%
1976	$1819.0	$1148.8	$11.2	0.97%	36.5%	$400.3	$2.5	0.62%	8.1%	$217.9	$17.0	7.81%	55.4%	$30.7	1.69%
1977	$2026.9	$1277.1	$12.1	0.95%	35.8%	$435.9	$3.0	0.70%	9.0%	$237.1	$18.6	7.86%	55.2%	$33.8	1.67%
1978	$2291.4	$1428.8	$13.1	0.92%	35.9%	$478.1	$3.3	0.68%	8.9%	$256.7	$20.2	7.85%	55.2%	$36.5	1.59%
1979	$2557.5	$1593.5	$14.7	0.92%	35.8%	$529.5	$4.2	0.78%	10.1%	$278.3	$22.2	7.99%	54.1%	$41.1	1.61%
1980	$2784.2	$1760.4	$16.5	0.94%	35.3%	$622.5	$5.5	0.89%	11.8%	$307.0	$24.7	8.06%	52.9%	$46.8	1.68%
1981	$3115.9	$1941.3	$19.0	0.98%	35.6%	$707.1	$6.7	0.95%	12.6%	$335.4	$27.6	8.24%	51.8%	$53.3	1.71%
1982	$3242.1	$2076.8	$22.0	1.06%	38.1%	$781.0	$5.8	0.74%	10.0%	$357.7	$30.0	8.38%	51.9%	$57.8	1.78%
1983	$3514.5	$2283.4	$24.2	1.06%	38.8%	$846.3	$7.0	0.82%	11.2%	$378.8	$31.2	8.22%	50.0%	$62.3	1.77%
1984	$3902.4	$2492.3	$26.5	1.06%	40.1%	$902.9	$6.5	0.72%	9.9%	$405.1	$33.1	8.16%	50.0%	$66.1	1.69%
1985	$4180.7	$2704.8	$28.8	1.06%	39.9%	$974.2	$7.2	0.73%	9.9%	$437.8	$36.3	8.29%	50.2%	$72.2	1.73%
1986	$4422.2	$2892.7	$31.2	1.08%	40.7%	$1027.6	$6.9	0.68%	9.1%	$475.7	$38.5	8.10%	50.2%	$76.7	1.73%
1987	$4692.3	$3094.5	$33.8	1.09%	41.8%	$1066.3	$7.0	0.66%	8.7%	$511.1	$40.0	7.82%	49.5%	$80.8	1.72%
1988	$5049.6	$3349.7	$36.6	1.09%	42.1%	$1118.5	$7.5	0.67%	8.7%	$545.5	$42.8	7.85%	49.2%	$87.0	1.72%
1989	$5438.7	$3594.8	$40.3	1.12%	42.0%	$1192.7	$9.7	0.81%	10.1%	$585.9	$46.0	7.85%	47.9%	$96.0	1.76%
1990	$5743.8	$3839.3	$44.0	1.15%	42.7%	$1284.5	$9.5	0.74%	9.2%	$648.8	$49.5	7.63%	48.1%	$103.0	1.79%
1991	$5916.7	$3975.1	$48.0	1.21%	44.5%	$1345.0	$9.6	0.71%	8.9%	$708.4	$50.4	7.11%	46.6%	$107.9	1.82%
1992	$6244.4	$4219.8	$52.0	1.23%	46.0%	$1479.4	$10.2	0.69%	9.1%	$758.0	$50.8	6.70%	44.9%	$113.0	1.81%
1993	$6558.1	$4459.2	$55.5	1.24%	46.4%	$1525.7	$10.7	0.70%	9.0%	$807.0	$53.3	6.60%	44.6%	$119.5	1.82%
1994	$6947.0	$4717.0	$59.0	1.25%	47.3%	$1561.4	$10.9	0.70%	8.7%	$852.3	$54.8	6.43%	43.9%	$124.7	1.79%
1995	$7269.6	$4953.9	$62.4	1.26%	48.0%	$1634.7	$12.1	0.74%	9.3%	$886.0	$55.7	6.28%	42.8%	$130.1	1.79%
1996	$7661.6	$5215.7	$65.7	1.26%	48.7%	$1695.0	$11.8	0.70%	8.8%	$922.6	$57.2	6.21%	42.5%	$134.8	1.76%
1997	$8110.9	$5493.7	$69.6	1.27%	48.7%	$1741.0	$13.6	0.78%	9.5%	$960.1	$59.7	6.22%	41.8%	$142.9	1.76%

drive policy analysts to serious drinking when data from the 1950s and 1960s are substantially revised, decades after the economic activity they describe has been completed. The analysis that follows is from the most recently published versions of these data released by the Bureau of Economic Analysis.

The analysis of the NIPA data that follows looks at higher educational finance from three funding sources: federal government, state and local government, and personal consumption. Much of these data are originally collected from higher education institutions through the IPEDs finance survey. The IPEDS data are shared with other federal agencies, including the Census Bureau's governmental finances section which in turn passes it on to the Bureau of Economic Analysis. The BEA supplements these data with information from other sources, notably related to federal spending on student financial aid.

Funding for Higher Education

In 1997 public and private higher education received $142.9 billion from taxpayers and students/parents for the educational missions. As the chart on page 10 shows, 48.7 percent came through tuition payments, 41.8 percent came from state and local governments, and the remaining 9.5 percent came from the federal government almost entirely through student financial aid programs. As shown in the table on page 12, this has grown from $1.7 billion in 1952. The dollar sums have doubled in just the last 12 years.

At first glance--ignoring the resources available to the country to finance higher education--this appears to be a remarkable record of growth. But controlling for the country's resources--measured here by Gross Domestic Product--a somewhat different picture emerges. The chart on page 11 provides a more complete picture of the financing of higher education in the United States:

- Between 1952 and 1982, the sum of private and government expenditures expressed as a proportion of Gross Domestic Product increased from 0.47 to 1.78 percent of GDP.
- Since 1982, the sum of private and government expenditures has fluctuated between 1.69 and 1.82 percent of GDP. In 1997 it stood at 1.76 percent of GDP, or a slightly *smaller* share of GDP than the peak reached in 1982--fifteen years earlier.

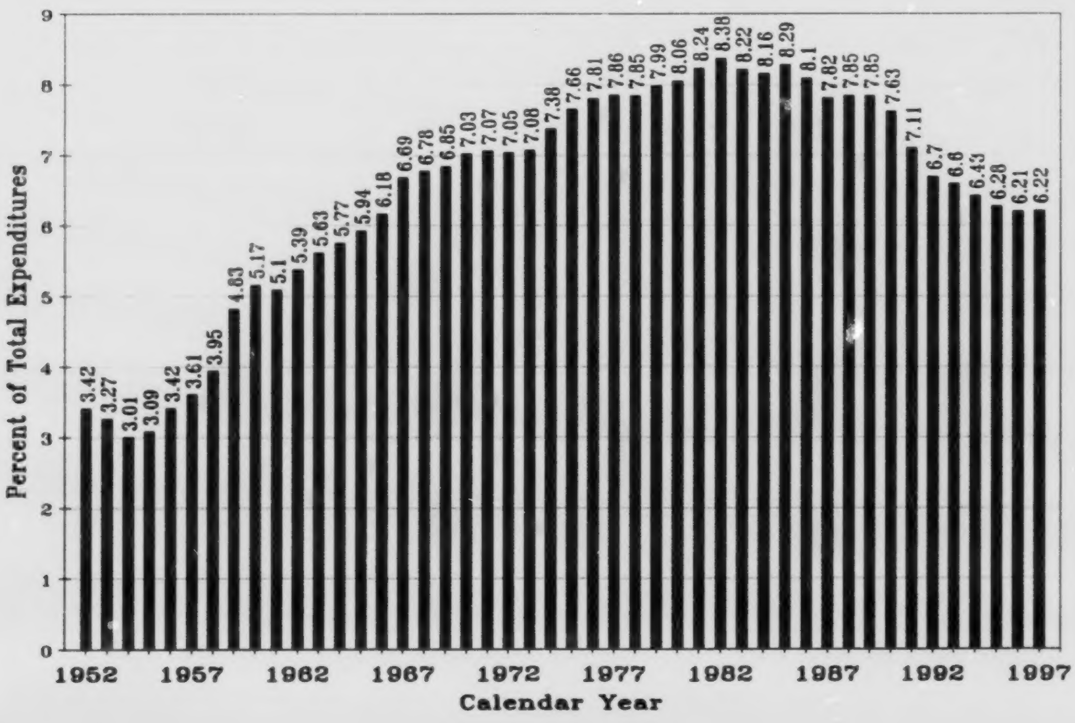
Said another way, the country has not expanded its investment in higher education during the last 15 years. We will return to this point later in this analysis when we consider the constraint this has placed both on higher educational opportunity and on economic development in the United States.

State and Local Governments

Between about 1960 and 1990, state and local governments (mainly state governments), provided the largest share of operating revenues for higher education in the United States. Prior to about 1960 and after 1991 students and their parents paid the largest share of the support received by higher education.

In 1997 state and local governments provided $59.7 billion for the operations of higher education. This was 6.22 percent of all state and local government expenditures. Over the last 45 years, this support has changed

Higher Education's Share of
Expenditures of State and Local Governments
1952 to 1997



Current Expenditures of State and Local Governments
(Table 3.17 of National Income and Product Accounts)
1952 to 1997
(dollars in millions)

	Total	<-Exec, Leg &						<Elementary &				<-Health &				<-Welfare and					
	Current	Judcl Admin->		<--Police--->		<Corrections->		Secondary Ed>		<Higher	Ed->	Hospitals-->		<Medical	Care>	Social Svcs->		<-Highways->		<-All other->	
Year	Expend	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt	Dollars	Pcnt
1952	20,067	1,584	7.9%	981	4.9%	311	1.5%	5,813	29.0%	687	3.42%	1,646	8.2%	116	0.6%	2,714	13.5%	2,701	13.5%	3,514	17.5%
1953	21,316	1,672	7.8%	1,083	5.1%	324	1.5%	6,702	31.4%	697	3.27%	1,834	8.6%	140	0.7%	2,779	13.0%	2,656	12.5%	3,429	16.1%
1954	22,917	1,821	7.9%	1,178	5.1%	343	1.5%	7,508	32.8%	689	3.01%	1,917	8.4%	165	0.7%	2,919	12.7%	2,679	11.7%	3,698	16.1%
1955	24,924	1,919	7.7%	1,285	5.2%	368	1.5%	8,434	33.8%	771	3.09%	2,026	8.1%	197	0.8%	2,986	12.0%	2,976	11.9%	3,962	15.9%
1956	26,916	2,156	8.0%	1,390	5.2%	405	1.5%	9,244	34.3%	921	3.42%	2,165	8.0%	227	0.8%	3,128	11.6%	3,057	11.4%	4,223	15.7%
1957	29,746	2,431	8.2%	1,537	5.2%	392	1.3%	9,839	33.1%	1,073	3.61%	2,444	8.2%	249	0.8%	3,343	11.2%	3,443	11.6%	4,995	16.8%
1958	33,161	2,548	7.7%	1,678	5.1%	461	1.4%	11,260	34.0%	1,311	3.95%	2,479	7.5%	349	1.1%	3,678	11.1%	3,638	11.0%	5,759	17.4%
1959	35,418	2,527	7.1%	1,781	5.0%	574	1.6%	11,714	33.1%	1,709	4.83%	2,623	7.4%	467	1.3%	3,935	11.1%	3,998	11.3%	6,090	17.2%
1960	38,427	2,759	7.2%	1,936	5.0%	636	1.7%	13,083	34.0%	1,988	5.17%	2,790	7.3%	529	1.4%	4,035	10.5%	4,180	10.9%	6,491	16.9%
1961	41,973	2,887	6.9%	2,061	4.9%	695	1.7%	14,457	34.4%	2,140	5.10%	3,062	7.3%	689	1.6%	4,229	10.1%	4,391	10.5%	7,362	17.5%
1962	44,827	3,009	6.7%	2,220	5.0%	724	1.6%	15,688	35.0%	2,414	5.39%	3,097	6.9%	930	2.1%	4,399	9.8%	4,630	10.3%	7,716	17.2%
1963	48,063	3,152	6.6%	2,361	4.9%	757	1.6%	17,118	35.6%	2,704	5.63%	3,345	7.0%	1,070	2.2%	4,635	9.6%	4,900	10.2%	8,021	16.7%
1964	52,407	3,377	6.4%	2,526	4.8%	844	1.6%	18,900	36.1%	3,026	5.77%	3,565	6.8%	1,255	2.4%	4,971	9.5%	5,150	9.8%	8,793	16.8%
1965	57,246	3,631	6.3%	2,734	4.8%	907	1.6%	20,781	36.3%	3,402	5.94%	3,804	6.6%	1,476	2.6%	5,357	9.4%	5,491	9.6%	9,663	16.9%
1966	64,286	4,032	6.3%	2,991	4.7%	981	1.5%	23,496	36.5%	3,974	6.18%	4,048	6.3%	1,990	3.1%	5,901	9.2%	5,944	9.2%	10,929	17.0%
1967	72,488	4,472	6.2%	3,384	4.7%	1,113	1.5%	25,950	35.8%	4,846	6.69%	4,364	6.0%	2,780	3.8%	6,813	9.4%	6,480	8.9%	12,286	16.9%
1968	82,611	5,110	6.2%	4,088	4.9%	1,239	1.5%	28,655	34.7%	5,605	6.78%	4,861	5.9%	4,055	4.9%	7,894	9.6%	7,045	8.5%	14,059	17.0%
1969	93,665	5,802	6.2%	4,448	4.7%	1,381	1.5%	32,431	34.6%	6,419	6.85%	5,562	5.9%	4,616	4.9%	9,317	9.9%	7,826	8.4%	15,863	16.9%
1970	108,183	6,575	6.1%	5,014	4.6%	1,617	1.5%	37,177	34.4%	7,608	7.03%	6,536	6.0%	5,530	5.1%	11,614	10.7%	8,677	8.0%	17,835	16.5%
1971	123,673	7,179	5.8%	5,706	4.6%	1,901	1.5%	41,516	33.6%	8,744	7.07%	7,284	5.9%	6,829	5.5%	13,895	11.2%	9,514	7.7%	21,105	17.1%
1972	137,540	7,863	5.7%	6,332	4.6%	2,130	1.5%	45,640	33.2%	9,698	7.05%	7,656	5.6%	8,304	6.0%	15,439	11.2%	10,076	7.3%	24,402	17.7%
1973	151,962	9,043	6.0%	7,089	4.7%	2,466	1.6%	50,158	33.0%	10,765	7.08%	8,359	5.5%	9,719	6.4%	16,606	10.9%	11,233	7.4%	26,524	17.5%
1974	170,161	10,368	6.1%	8,009	4.7%	2,957	1.7%	55,302	32.5%	12,565	7.38%	9,776	5.7%	11,482	6.7%	16,209	9.5%	13,665	8.0%	29,828	17.5%
1975	197,958	10,765	5.4%	9,058	4.6%	3,434	1.7%	62,891	31.8%	15,169	7.66%	10,983	5.5%	14,240	7.2%	18,973	9.6%	15,388	7.8%	37,057	18.7%
1976	217,927	12,700	5.8%	9,918	4.6%	3,880	1.8%	69,177	31.7%	17,014	7.81%	11,262	5.2%	15,854	7.3%	20,874	9.6%	15,976	7.3%	41,272	18.9%
1977	237,130	14,025	5.9%	10,903	4.6%	4,357	1.8%	74,940	31.6%	18,639	7.86%	12,725	5.4%	17,335	7.3%	22,631	9.5%	16,791	7.1%	44,784	18.9%
1978	256,660	16,245	6.3%	12,469	4.9%	4,938	1.9%	80,577	31.4%	20,155	7.85%	14,069	5.5%	19,308	7.5%	23,940	9.3%	18,415	7.2%	46,544	18.1%
1979	278,295	18,171	6.5%	13,054	4.7%	5,601	2.0%	88,894	31.9%	22,248	7.99%	14,933	5.4%	21,764	7.8%	25,639	9.2%	20,251	7.3%	47,740	17.2%
1980	306,991	19,923	6.5%	14,323	4.7%	6,365	2.1%	97,047	31.6%	24,749	8.06%	16,911	5.5%	24,913	8.1%	29,753	9.7%	22,961	7.5%	50,046	16.3%
1981	335,412	21,431	6.4%	16,062	4.8%	7,367	2.2%	104,522	31.2%	27,639	8.24%	18,006	5.4%	29,202	8.7%	32,230	9.6%	25,753	7.7%	53,200	15.9%
1982	357,716	24,046	6.7%	17,808	5.0%	8,647	2.4%	112,147	31.4%	29,989	8.38%	18,642	5.2%	32,055	9.0%	33,838	9.5%	28,290	7.9%	52,254	14.6%
1983	378,769	26,180	6.9%	18,975	5.0%	9,845	2.6%	119,546	31.6%	31,151	8.22%	18,230	4.8%	35,935	9.5%	36,295	9.6%	29,331	7.7%	53,281	14.1%
1984	405,138	27,926	6.9%	20,208	5.0%	11,181	2.8%	130,187	32.1%	33,050	8.16%	19,460	4.8%	38,804	9.6%	38,204	9.4%	30,370	7.5%	55,748	13.8%
1985	437,760	31,570	7.2%	22,153	5.1%	12,888	2.9%	140,783	32.2%	36,294	8.29%	21,027	4.8%	42,425	9.7%	40,747	9.3%	32,505	7.4%	57,368	13.1%
1986	475,714	34,355	7.2%	23,793	5.0%	14,523	3.1%	152,698	32.1%	38,514	8.10%	21,834	4.6%	46,856	9.8%	43,542	9.2%	34,621	7.3%	64,978	13.7%
1987	511,089	36,638	7.2%	25,121	4.9%	16,283	3.2%	164,583	32.2%	39,975	7.82%	23,201	4.5%	51,388	10.1%	45,271	8.9%	35,622	7.0%	73,007	14.3%
1988	545,470	39,624	7.3%	26,913	4.9%	18,289	3.4%	175,733	32.2%	42,817	7.85%	25,330	4.6%	56,769	10.4%	48,062	8.8%	36,855	6.8%	75,078	13.8%
1989	585,926	42,658	7.3%	29,048	5.0%	20,825	3.6%	188,234	32.1%	46,010	7.85%	26,897	4.6%	64,976	11.1%	51,332	8.8%	38,224	6.5%	77,722	13.3%
1990	648,818	45,785	7.1%	31,703	4.9%	23,741	3.7%	204,177	31.5%	49,502	7.63%	29,190	4.5%	78,176	12.0%	57,041	8.8%	40,396	6.2%	89,107	13.7%
1991	708,359	48,638	6.9%	33,915	4.8%	26,060	3.7%	215,564	30.4%	50,352	7.11%	29,186	4.1%	102,116	14.4%	61,962	8.7%	42,423	6.0%	98,143	13.9%
1992	758,036	51,129	6.7%	36,162	4.8%	28,110	3.7%	224,107	29.6%	50,780	6.70%	28,012	3.7%	121,786	16.1%	66,450	8.8%	44,263	5.8%	107,237	14.1%
1993	806,969	52,960	6.6%	38,013	4.7%	30,376	3.8%	234,222	29.0%	53,259	6.60%	26,224	3.2%	135,145	16.7%	69,837	8.7%	45,906	5.7%	121,027	15.0%
1994	852,330	56,412	6.6%	40,657	4.8%	33,275	3.9%	245,908	28.9%	54,778	6.43%	25,973	3.0%	144,886	17.0%	73,901	8.7%	47,903	5.6%	128,637	15.1%
1995	886,041	60,257	6.8%	44,613	5.0%	36,212	4.1%	258,692	29.2%	55,668	6.28%	23,723	2.7%	155,017	17.5%	74,708	8.4%	50,446	5.7%	126,705	14.3%
1996	922,571	63,465	6.9%	47,749	5.2%	38,873	4.2%	271,668	29.4%	57,247	6.21%	22,237	2.4%	163,610	17.7%	73,858	8.0%	52,453	5.7%	131,411	14.2%
1997	960,147	68,150	7.1%	50,390	5.2%	41,534	4.3%	284,993	29.7%	59,693	6.22%	21,827	2.3%	169,123	17.6%	74,304	7.7%	54,610	5.7%	135,523	14.1%

markedly.

- Between the mid-1950s and 1982, the proportion of state and local government expenditures committed to higher education increased from about 3 to 8.4 percent.
- Between 1982 and 1997 the proportion committed to higher education declined to about 6.2 percent, or about the share of state and local government spending in 1967.

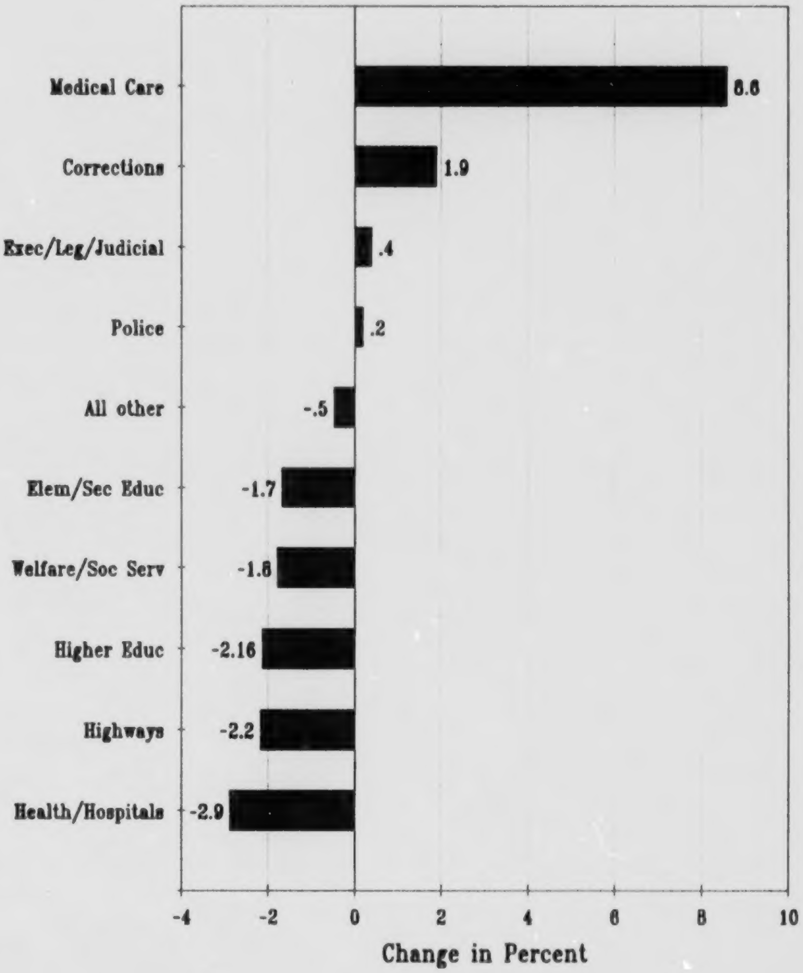
The dollar dimensions of these shifts can be measured thusly: In 1997 state and local governments spent $960 billion. One percent of this is $9.6 billion. Each one percent shift in expenditure shares adds or subtracts $9.6 billion from an expenditure category.

Because higher education's share of state and local government expenditures declined from 8.38 percent in 1982 to 6.22 percent in 1997, the 1997 expenditure share is $20.7 billion below the peak in 1982. We will return to this point when we consider the cost-shift from state taxpayers to students later in this analysis.

Clearly, higher education has been displaced in state and local budget priorities. We know not why, but it is fair to ask what competing budget priorities displaced higher education. The table on page 14 and the chart on this page provide most of the answer.

Over the last 45 years the expenditure categories that have gained budget shares are primarily medical care, corrections and higher education. Tiny gains are also shown for police and elementary and secondary education. The big losers were highways, health and hospitals, welfare and social services, and the all other category of everything else.
These data are shown in the table on page 14.

State and Local Government Budget Share Changes
1982 to 1997



The last 15 years show roughly similar shifts in funds across expenditure categories. The big winners are medical care and corrections. The big losers are health and hospitals, highways, higher education, welfare and social services, and elementary and secondary education.

What these data do not show are changes in government tax collections. As reported by the National Conference of State Legislatures, state tax cuts have become a higher budget priority than funding existing government services over the last six years or so.

Clearly the funding priorities of state and local government have shifted and continue to do so. Presumably, these priorities reflect the will of voters, and the changing priorities of voters over the last 45 years. Between the mid 1950s and 1982, voters appear to have supported increased expenditure shares for higher education in state and local government budgeting. Since 1982, however, that has reversed with resources shifted from higher education to new budget priorities of medical care and corrections--and tax cuts.

Federal Government

In 1997 the federal government spent $13.6 billion on higher education. This was almost entirely on student financial aid--Pell Grants, educational loan subsidies and guarantees--with small sums spent on certain direct institutional support.

As reflected in the chart on this page, the federal role is both relatively small and new. It began with Sputnik in 1957 and grew to a peak of 0.95 percent of federal current expenditures in 1981. Since 1982 higher education's share of federal expenditures has fluctuated around 0.7 percent of the total.

In 1997 the federal government spent $1741 billion. Thus each one-tenth of one percent of federal expenditures amounts to $1.7 billion. One *could* say that the cutback from 0.95 percent in 1981 to the more recent 0.70 percent has reduced federal student financial aid support by $4.3 billion in 1997. However, if the spikes in 1981 and 1982 are viewed as anomalies then the share of federal expenditures devoted to higher education has remained at about 0.7 percent since 1977.

This tiny share of federal expenditures is disproportionately important, however, because nearly all federal expenditures are directed toward meeting the financial needs of students to pay their college attendance costs.

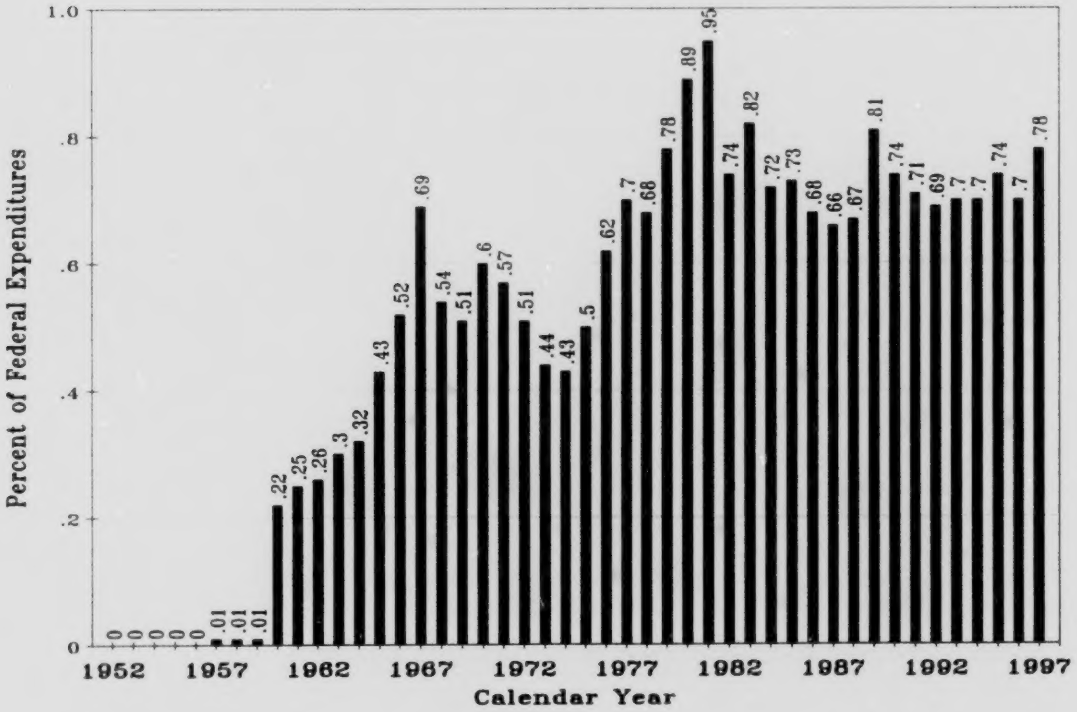
Students and Families

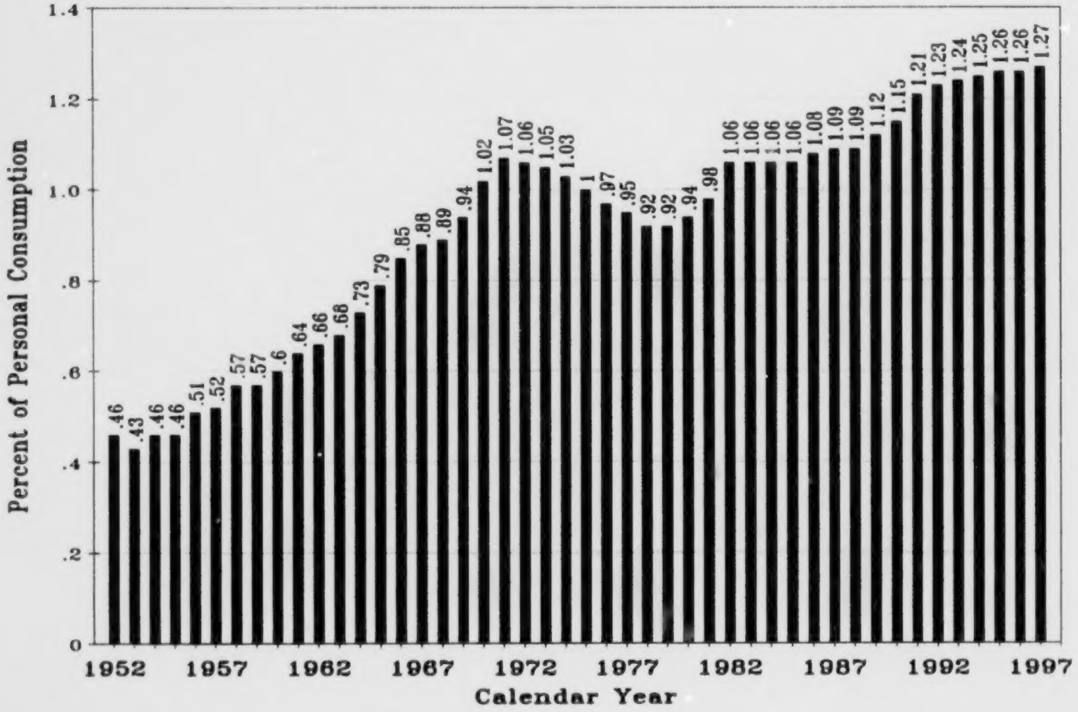
If taxpayers have reduced their financial commitments to higher education since the early 1980s, then only students and their parents are left to pay for what taxpayers are less willing to provide. Here the Bureau of Economic Analysis tabulates tuition payments as a part of personal consumption--something we would call investment.

In 1997 students and their families paid $69.6 billion toward the operation of higher education through tuition and fees. Expressed as a proportion of all personal consumption expenditures, this was 1.27 percent of all expenditures. This was the highest at any point in the last 45 years of NIPA data.

The proportion of personal consumption devoted to higher education rose from 0.43 percent in 1953 to 1.07 percent in 1971, then dropped back to 0.92 percent in 1978 and 1979. Then the increases resumed

Higher Education's Share of
Expenditures of the Federal Government
1952 to 1997





Higher Education's Share of Personal Consumption Expenditures 1952 to 1997

to their most recent record levels.

Because personal consumption expenditures constitute about a third of the Gross Domestic Product of the United States, even the smallest changes in personal consumption reflect large changes in outlays for higher education. Each one-tenth of one percent change in the proportion of personal consumption committed to higher education is $5.5 billion. Thus the increase in the share of personal consumption from 0.92 percent in 1979 to 1.27 percent by 1997 means that in 1997 students (and their parents) were paying $192.3 billion more out of personal consumption than they had in 1979. This increase reflects both an increase in the proportion of the population enrolled in higher education, but even more the reduction in what taxpayers were willing to contribute to higher education.

Shifting Responsibility from Taxpayers to Students

In the years after World War II, higher education was more widely appreciated as a public good, more like elementary and secondary education, deserving of substantial social investment and support. Students were assigned a not-insignificant share of responsibility for the financing of higher education and, except for a brief period in the 1970s, the share of personal consumption expenditures committed to higher education grew each year.

But this view of the responsibilities of the respective parties--taxpayers and students--changed markedly around 1980. This shift is highlighted in the chart on the following page.

The retreat of the states had begun earlier. The state share of the total contribution to higher education increased after World War II from a low of 38.5 percent in 1954 to a peak of 55.5 percent in 1975. It thereafter began a decline, gradual at first, then greater in the 1980s and then accelerating still faster and further in the 1990s. By 1997 the state share of the total effort had dropped to 41.8 percent or about where it had been in 1957.

The rate of decline since 1975 is readily measured. Between 1975 and 1979 the average annual rate of decline was 0.35 percent in the state share of the total higher education funding effort. Between 1979 and 1989 the average annual rate of decline was 0.42 percent. Then, between 1989 and 1997 the average decline jumped to 0.76 percent. The economic recession of the early 1990s was particularly unkind to state efforts to support higher education.

The federal government's contribution increased from near zero before Sputnik in 1957 to a peak of 12.6 percent of the higher education total in 1981, then backed off to about 9 percent by 1986 and has remained near that level since then.

The federal government has been able to maintain the appearance of continuing to expand its student financial aid commitments by:

- Substituting loans for grants where the borrowed capital comes for the private sector,
- Creating new educational loan programs that do not provide in-school interest subsidies,
- Allowing the Pell Grant maximum award to lose about half of its purchasing power,
- Encouraging family savings plans for college and, most recently,
- Enacting federal income tax breaks for middle- and high-income families that do not appear as a federal expenditure in the National Income and Product Accounts.

However, as the NIPA data make clear, the federal share of the financing of higher education is below the peak reached in the late 1970s and early 1980s.

What remains is for families to finance. In 1997 families provided the largest single share of funds for higher education, 48.7 percent of the total.

As the chart on this page makes clear, the share of financing higher education borne by families declined sharply after World War II up to 1980, from about 60 percent of the total higher education expenditure in the early 1950s to about 35 percent by 1980. This trend then reversed, and has been increasing since then. By 1997 the family share is back to about 49 percent. This mirrors precisely the pattern of taxpayers investment in higher education.

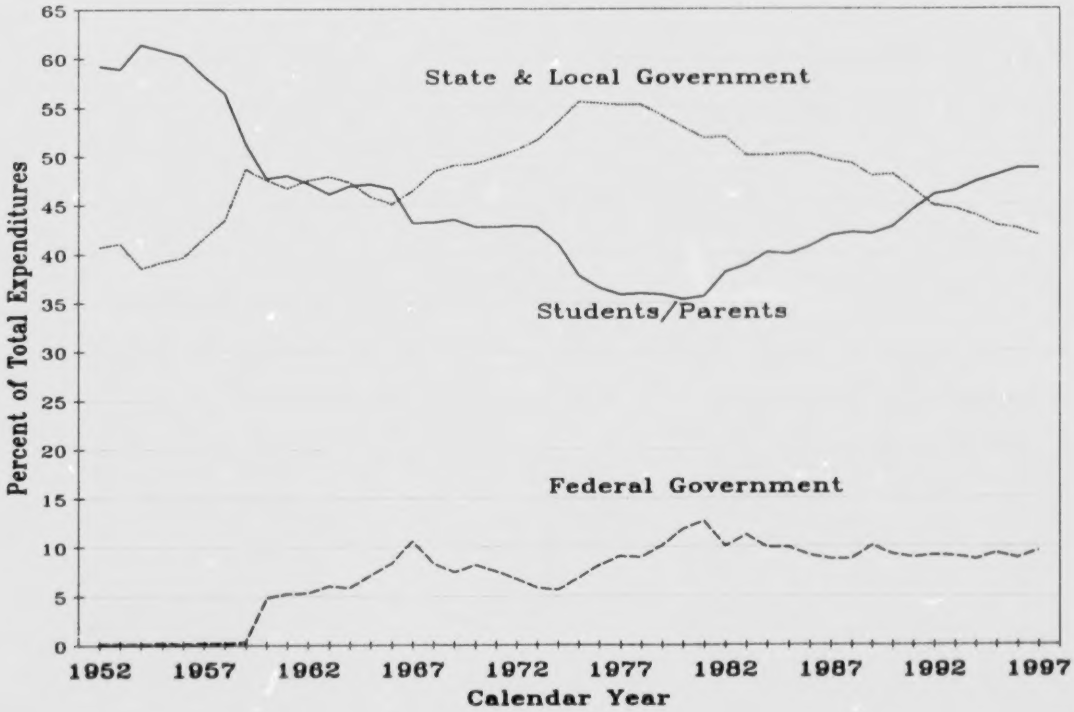
If we use 1980 as a reference, the shifts from taxpayers to families by 1997 is readily measured:

- State and local taxpayers are paying $15.9 billion *less* in 1997 compared to their share of the total expenditure in 1980.
- Federal taxpayers are paying $3.3 billion *less* in 1997 than they did in 1980.
- Families are paying $19.1 billion more in 1997 than they did in 1980.

Implications

The importance of the stories told by these data from the National Income and Product Accounts cannot possibly be overstated. Higher education is absolutely vital to the future health and

Distribution of Responsibilities for Financing Higher Education 1952 to 1997



prosperity of the United States and its role of leadership in the world. Higher education fulfills its role by educating the citizens that carry out leadership and productive roles in these our national destinies.

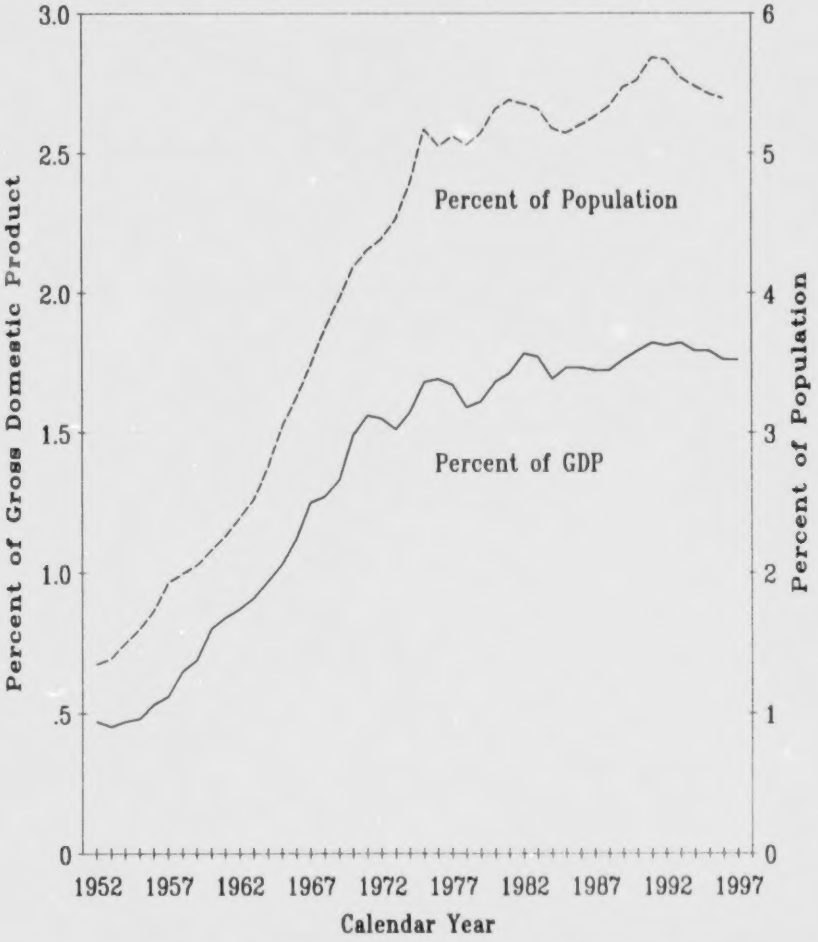
These data reveal serious issues in the delivery of higher educational opportunity, issues that jeopardize national welfare and world leadership. Among them are:

College as a private investment. For most of the last two decades, states have been and continue to shift funding from higher education to other state budget priorities, mainly medical care and corrections. Public colleges and universities have raised tuition charges to students to offset this loss of state taxpayer support for their higher educational operations.

Implicit in this withdrawal of state investment and increased private investment is the view that higher education is more a private benefit than a public benefit. This view holds that the benefits of higher education accrue primarily to the individual and that the individual takes this investment with them, even if they leave the state where they received their higher educations. Individuals who receive these benefits should expect to pay for them.

This view has considerable merit insofar as college-educated workers earn many hundreds of thousands of dollars more than high school-educated workers over their working lifetimes. But this view too conveniently ignores the plight of many who could profit from higher education but cannot do so on their own. They lack the resources, preparation and knowledge to take advantage of higher education. The circumstances of birth handicap some in ways that they cannot escape without outside--namely public--intervention.

Higher Education's Share of Gross Domestic Product and Population 1952 to 1997



The clumsy public policy application of the private benefits principle to these populations denies these people privately and society generally the benefits of their fully developed human potential. A few states are aware of this social responsibility and effectively address it. Most states ignore it and suffer economically and socially as a result. Some states deliberately practice a form of economic enslavement by curtailing higher educational opportunity for their poorest citizens.

Demand/supply imbalance. There is growing evidence that the curtailment of social investment in higher education is curtailing economic growth and development. Shortages of skilled workers are numerous. Companies have reported that they cannot find the skilled workers they need to expand their businesses.

From another perspective, conventional demand/supply interpretation of the income redistribution that has been occurring in the United States suggests this too. Real incomes of persons with high school educations have been declining since about 1973, suggesting an excess of supply of these workers relative to the labor market's need for them. However, at higher levels of educational attainment, the reverse is true. Real incomes of those with the most higher education have been increasing, suggesting that the labor market demand for these skill levels exceeds supply.

Not coincidentally, the imbalance between demand and supply of workers at different levels of educational attainment (1973) begins about the same time that higher educations's share of Gross Domestic Product stops growing (1975). As the chart on page 19 shows, higher education's share of GDP and the proportion of the population enrolled in higher education are very closely related. From 1952 until the mid 1970s, both increased year after year. But when the sum of private and social investment plateaued, so too did the proportion of the population enrolled in higher education.

Meantime the educational attainment requirements of the economy generally and the labor force continued to grow. The labor force projections by the Bureau of Labor Statistics over the last several decades have never failed to project greater need for skilled than unskilled labor. Policy makers, particularly at the state level, who have chosen to ignore these clear signals are now reaping the returns from their failure to wisely invest in the higher educations of their state work forces.

Higher education efficiency. The reduction in state financial support for public higher education over the last several decades has led directly to increased tuition charges to students and their parents. This simple fact was ignored by the National Commission on the Cost of Higher Education (1998), which was asked to determine why college costs had increased so much faster than inflation or family incomes since 1980. The Commission instead chose to recommend "strengthen institutional cost control" with other recommendations that utterly failed to name governors and legislators as the primary cause of price escalation in public higher education.

The fact is higher education prices--not costs--are what has increased. From the chart on the previous page, the ratio of expenditures/GDP to enrollments/population has been virtually constant for 45 years, ranging from .31 to .36, and most recently at .325. Higher education efficiency, measured thusly, is not the issue. Declining state support is the issue, especially for educational opportunity.

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Postsecondary Education
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The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

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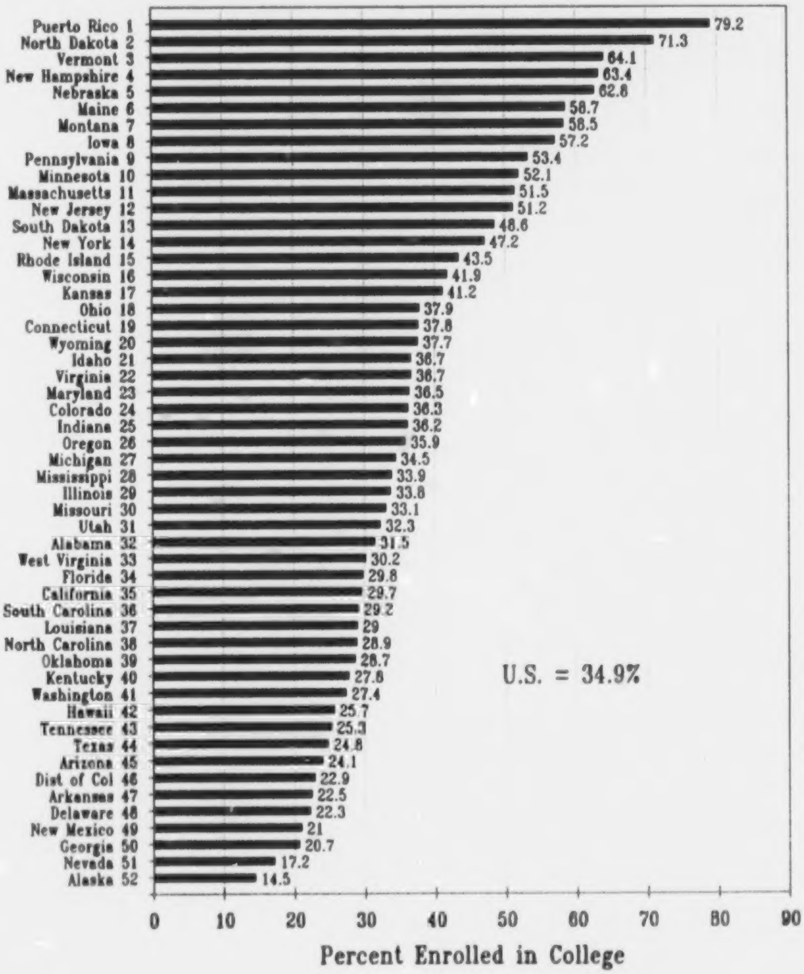
State Outreach Efforts to Students from Low Income Families, 1996

Chance for College for Dependent 18-24 Year Old Students from Low Income Families by State, 1996



The importance of higher education to human welfare is widely and deeply understood. The welfare of individuals, their families, the communities and states in which they live and the social and economic health of the country are increasingly determined by higher education.

We think we know this, but we do not always act as if we do. Across the states, students' chances of reaching college vary widely.

- Among 19 year olds in 1996, the chance that a person was enrolled in college ranged from 63.2 percent in **North Dakota** to 25.3 percent in **Nevada**.
- Among 18 to 24 year olds from low income families in 1996, the chance that a person reached college ranged from 79.2 percent in **Puerto Rico** to 14.5 percent in **Alaska**.

These differences across states reflect differences in attitudes, values and commitments that distinguish states from each other. In some states the higher education needs and aspirations of individuals appear to be supported by state policy decisions. In other states these needs and aspirations appear to be taken less seriously or even ignored by governors and legislators.

Across the 50 states, one might reasonably expect wide variation in state commitment to fostering higher educational opportunity. In fact that is what we find. Some states are clearly focused on designing programs and policies to foster higher educational opportunity, and then supporting these initiatives with resources to make them work.

Other states appear to be largely oblivious to state responsibilities and roles. The officials in these states probably reflect the wishes of the majority of voters who elected them. But where they ignore the economic changes that signal needs to broaden opportunities for postsecondary education and training, they sacrifice the gains in human welfare that we all desire and toward which higher education represents the most obvious path.

Here we examine state outreach efforts to broaden higher educational opportunity for students, especially for students from low income family backgrounds. These students face extraordinary financial, social, cultural, geographic, academic and institutional barriers to postsecondary education. For no other group is public policy intervention and assistance more clearly called for by urgent economic necessity.

Some states rise to this challenge while others do not. Some states try in some ways, but do not try in others. What the data examined here reveal is an otherwise unmeasurable underlying dominant value system that guides state policy making and makers. Differences in these value systems take states in different directions, with very different results.

Moreover, we have tested and validated these measures of state outreach against measured performance. We have examined the correlation between these state outreach measures focused on fostering higher educational opportunity for students with chance for college for students from low income family backgrounds by state. The correlations are high and in the directions expected by social science research and program designers.

This validation effort indicates that states have a proven path to follow should they choose to foster higher educational opportunity in their states. The states that have made these commitments have shown how to do it right, and they have succeeded.

The states that have not followed the this path tend to have the lowest college participation rates. These misguided efforts include low public institution tuition rates and merit-based students financial aid programs. States that have adopted these strategies tend to have the lowest college participation rates, both for all students and for those from low income family backgrounds.

The message is clear: focusing state efforts on those who need help to attend college works. What doesn't work is equally clear. States that have not focused their investments on needy students and instead and pursued low tuition policies for all students tend to have the lowest college participation rates.

Moreover, political gimmicks like merit-based grants are also strongly negatively correlated with college participation rates across the states. This implies also that President Clinton's Hope federal income tax credits that deny the benefit to students from low income families will have no beneficial impact on higher education participation.

Finally, these data provide strong and consistent confirming evidence that the high-tuition/high-aid model of financing higher educational opportunity works. Private higher education has demonstrated this for many years. Public higher education ought to stop fighting this if it is to effectively and efficiently serve the public interest.

These data also illustrate that those states that pursue regressive public policy and political gimmicks pay a steep price in terms of fostering participation in higher education. Ultimately, their diversions from tested and proven paths are destructive of human welfare in their states.

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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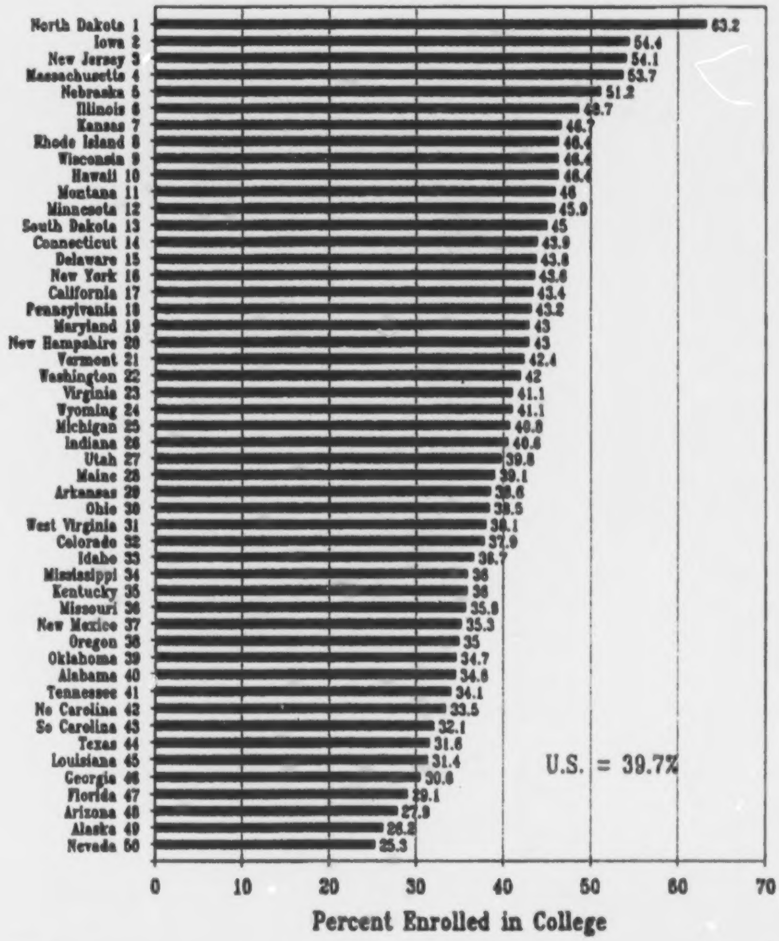
Chance for College by Age 19 by State, 1996



The Data and Analysis

The central purpose of this analysis is an assessment of focused state outreach efforts to assist students from low income family backgrounds. In addition, several popular approaches that are not focused on students from low income families are assessed.

The six focused outreach efforts examined here are:

1. The percent of state tax funds for higher education that are directed to need-based undergraduate grant assistance.
2. The percent of state-resident Pell Grant recipients that also receive state need-based grant assistance.
3. The ratio of state need-based grant dollars to federal Pell Grant program dollars.
4. Pell Grant recipient net migration rates by state.
5. The proportion of secondary education students from low income families enrolled in federal Upward Bound or Talent Search programs.
6. The proportion of Pell Grant recipients who are enrolled in federal Student Support Services or McNair programs.

These measures or indicators are compiled for the 1996-97 academic year.

A composite of these six indicators is compiled from the state rankings of the six. This composite ranking reflects the relative efforts of the states to foster higher educational opportunity for students from low income family backgrounds.

In addition, we examine several commonly used but unfocused or other-directed state approaches to fostering higher educational opportunity:

1. Public flagship university tuition and fee rates for resident undergraduate students.
2. The above, adjusted for state per capita disposable personal income.
3. Public college and state university tuition and fee rates for resident undergraduate students.
4. The above, adjusted for state per capita disposable personal income.
5. Community college tuition and fee rates for resident students.
6. The above, adjusted for state per capita disposable personal income.
7. The proportion of state financial aid for undergraduates that is not need-based.

The state participation measures against which these indicators are compared are:

1. Chance for college for 18 to 24 year dependent family members from low income families (below roughly $25,000 per year family income), as shown on page 1 of this issue of OPPORTUNITY, and
2. Chance for college by age 19, as shown on page 3 of this issue of OPPORTUNITY.

Both of these measures combine high school graduation rates with college continuation rates. The product of high school graduation rates and college continuation rates is chance for college by the indicated age or age range.

Our analyses of these data includes both correlations of these measures with college participation rates by state, and a composite ranking of the states by the first six focused state outreach measures. This shows not only what works (and what doesn't), but which states are most consistently employing these focused state investment strategies to foster higher educational opportunity.

Indicator 1: Percent of State Tax Fund Appropriations for State Need-Based Student Financial Aid Programs

For the 1996-97 academic year, states appropriated $46.6 billion for the operations of higher education. Of this total, $2.6 billion was provided for need-based grants to students. This was 5.5 percent of the total. This is a measure of the *focus* of each state's higher education financial investment on undergraduate students who have demonstrated financial need to attend college.

Across the states, the proportion of state tax fund appropriations provided for need-based student financial aid ranged from 22.5 percent in New York to 0.08 percent in Mississippi. In only nine states did the proportion of state support provided through need-based grants exceed the national average. These states were: **New York, Vermont, Pennsylvania, Illinois, New Jersey, Minnesota, Indiana, Massachusetts and Iowa.**

Across the 50 states, this indicator had a correlation with chance for college for students from low income families of +.37. That means that chance for college tended to be higher in those states that focused their state investment on undergraduates with financial need to attend college, and lower in those states that chose not to

Indicator 1:
Percent of State Tax Fund Appropriations for Higher Education
for State Need- Based Financial Aid Grant Programs
1996-97

Rank	*State*	*Need-Based Grant Aid (000)*	*State Tax Fund Approps (000)*	*Percent for Need-Based Grant Aid*
1	New York	$ 633,357	$ 2,811,204	22.53%
2	Vermont	11,457	54,868	20.88%
3	Pennsylvania	240,459	1,649,324	14.58%
4	Illinois	272,898	2,126,177	12.84%
5	New Jersey	152,458	1,348,217	11.31%
6	Minnesota	92,707	1,091,639	8.49%
7	Indiana	77,834	1,032,113	7.54%
8	Massachusetts	57,413	825,728	6.95%
9	Iowa	41,938	711,021	5.90%
10	Virginia	59,025	1,071,375	5.51%
11	Washington	58,163	1,077,410	5.40%
12	Michigan	90,988	1,756,823	5.18%
13	Wisconsin	49,008	966,966	5.07%
14	Ohio	86,770	1,764,824	4.92%
15	Colorado	29,248	619,055	4.72%
16	California	259,660	5,939,292	4.37%
17	Maryland	36,634	848,221	4.32%
18	Rhode Island	5,699	134,427	4.24%
19	Kentucky	28,902	707,323	4.09%
20	Connecticut	20,297	542,350	3.74%
21	Maine	6,636	182,383	3.64%
22	Oregon	16,241	480,702	3.38%
23	West Virginia	10,527	342,178	3.08%
24	New Mexico	14,879	487,390	3.05%
25	South Carolina	21,540	711,003	3.03%
26	Oklahoma	16,517	616,700	2.68%
27	Arkansas	12,569	486,972	2.58%
28	Tennessee	18,652	914,661	2.04%
29	Kansas	10,171	535,353	1.90%
30	Nevada	4,197	238,273	1.76%
31	Missouri	13,681	793,068	1.73%
32	Florida	33,860	2,017,348	1.68%
33	Texas	47,549	3,191,337	1.49%
34	North Dakota	2,202	153,815	1.43%
35	Louisiana	7,172	645,904	1.11%
36	North Carolina	18,865	1,852,013	1.02%
37	Delaware	1,234	148,471	0.83%
38	New Hampshire	669	82,989	0.81%
39	Nebraska	3,211	401,750	0.80%
40	Utah	2,170	445,766	0.49%
41	Arizona	2,751	731,762	0.38%
42	Idaho	724	241,555	0.30%
43	South Dakota	346	117,401	0.29%
44	Montana	314	125,735	0.25%
45	Alabama	1,984	967,749	0.21%
46	Georgia	2,165	1,302,566	0.17%
47	Wyoming	160	116,183	0.14%
48	Alaska	213	172,011	0.12%
49	Hawaii	379	351,127	0.11%
50	Mississippi	540	668,591	0.08%
	TOTALS	$ 2,577,033	$ 46,601,113	5.53%

do this. The correlation between this indicator and chance for college by age 19 was +.31. This indicates that focusing state higher education investment on financially needy students is positively associated with overall college participation as well.

Indicator 2: State Need-Based Grant Coverage of Pell Grant Recipients

In 1996-97 there were nearly 3.5 million Pell Grant recipients. During this same period, states provided need-based grants to about 1.7 million needy undergraduates, or about 48 percent of the number receiving Pell Grants.

Pell Grant recipients are the lowest income of the financially needy undergraduate student population. There are many more students who are needy but do not qualify for Pell Grants largely because they are middle-income and the expected family contribution from the Federal Methodology exceeds the value of the Pell Grant maximum award.

Here we compare the number of state need-based grant awards to the number of federal state-resident Pell Grant recipients in each state. The range of the results is from 169 percent in Vermont to 1.4 percent in Mississippi. That is to say, while Vermont had about 8,000 state-resident Pell Grant recipients, it made need-based grant awards to about 13,500 Vermont students. At the other extreme, Mississippi had nearly 51,000 state-resident Pell Grant recipients, but only made about 700 need-based grants to its own undergraduate students.

Across the 50 states, the correlation between college participation rates for students from low income families by state with this measure of state grant coverage of Pell Grant recipients by state need-based grants was +.39. That means that college participation

Indicator 2:
State Need-Based Grant Coverage of Pell Recipients
1996-97

Rank	*State*	*Number of State Need-Based Grant Recipients*	*Number of Pell Grant Recipients*	*State Need-Based Grant Coverage of Pell Recipients*
1	Vermont	13,514	8,012	168.67%
2	Pennsylvania	150,837	142,085	106.16%
3	Illinois	150,450	143,478	104.86%
4	Minnesota	63,909	61,645	103.67%
5	Wisconsin	50,648	52,994	95.57%
6	New York	302,670	337,060	89.80%
7	Ohio	110,615	135,008	81.93%
8	Rhode Island	10,051	12,427	80.88%
9	New Jersey	65,764	83,366	78.89%
10	Massachusetts	53,510	67,843	78.87%
11	Indiana	44,615	64,487	69.18%
12	Maine	11,681	17,013	68.66%
13	Colorado	31,681	47,536	66.65%
14	Virginia	46,082	69,873	65.95%
15	Washington	43,940	67,076	65.51%
16	Michigan	71,584	114,983	62.26%
17	Maryland	31,417	53,819	58.38%
18	Kentucky	30,907	56,157	55.04%
19	Oregon	18,615	36,119	51.54%
20	Nevada	5,158	10,081	51.17%
21	Iowa	21,047	41,910	50.22%
22	New Mexico	14,317	31,623	45.27%
23	Arkansas	14,006	35,404	39.56%
24	Oklahoma	20,443	56,207	36.37%
25	Tennessee	22,040	60,822	36.24%
26	North Dakota	3,932	11,989	32.80%
27	Nebraska	7,706	24,925	30.92%
28	West Virginia	7,770	25,568	30.39%
29	Kansas	8,994	36,571	24.59%
30	California	102,211	442,170	23.12%
31	Delaware	1,336	5,911	22.60%
32	Florida	42,049	186,526	22.54%
33	South Carolina	9,340	49,209	18.98%
34	North Carolina	13,210	74,162	17.81%
35	Missouri	10,704	65,947	16.23%
36	Texas	34,306	262,282	13.08%
37	New Hampshire	1,339	10,812	12.38%
38	Utah	3,998	33,130	12.07%
39	Connecticut	2,341	25,058	9.34%
40	South Dakota	1,135	13,085	8.67%
41	Idaho	1,686	19,786	8.52%
42	Arizona	4,840	60,846	7.95%
43	Louisiana	5,316	75,472	7.04%
44	Alabama	4,380	62,414	7.02%
45	Hawaii	670	9,749	6.87%
46	Georgia	5,106	93,797	5.44%
47	Wyoming	372	7,382	5.04%
48	Montana	696	17,690	3.93%
49	Alaska	151	5,492	2.75%
50	Mississippi	717	50,893	1.41%
	TOTALS	1,673,806	3,477,894	48.13%

rates were highest in those states that provided need-based grants to their own financially needy undergraduate students, and lowest in those states that provided the least grant assistance to their own needy students.

The correlation between chance for college by age 19 for students from all income levels and state grant coverage of the financially needy undergraduate population was +.34. This means that state grants improved chance for college for all students in addition to those who qualified for federal Pell Grants.

Indicator 3: State Need-Based Grant Dollars Compared to Federal Pell Grant Dollars

In 1996-97 the federal Pell Grant program provided $5.4 billion to financially needy low income students in the 50 states. During this same year states provided nearly $2.6 billion in need-based grants to undergraduate residents of their states. State grant dollars amounted to about 48 percent of the federal Pell Grant total overall.

However, the ratio of state grant dollars to federal Pell Grant dollars varied widely across the states. At one extreme, Illinois provided 126 percent of what the federal government provided for its own financially needy undergraduate students. Illinois provided $273 million compared to the federal provision of about $217 million. At the other extreme, Mississippi provided just 0.6 percent of what the federal government provided, $540 thousand of state money compared to nearly $86 million in federal Pell Grant dollars.

Perhaps no other indicator so distinguishes state efforts to assist their own financially needy undergraduate students than does this measure. This effort costs real state dollars and measures real state efforts against a

Indicator 3:
State Need-Based Grant Dollars Compared to Federal Pell Grant Dollars
1996-97

Rank	*State*	*State Need-Based Grant Dollars (000)*	*Federal Pell Grant Dollars (000)*	*State Need-Based Grant Dollars Compared to Federal Pell Grant Dollars*
1	Illinois	$ 272,898	$ 216,588	126.00%
2	New Jersey	152,458	132,493	115.07%
3	New York	633,357	570,530	111.01%
4	Pennsylvania	240,459	220,741	108.93%
5	Minnesota	92,707	89,018	104.14%
6	Vermont	11,457	11,350	100.94%
7	Indiana	77,834	94,342	82.50%
8	Iowa	41,938	60,987	68.77%
9	Wisconsin	49,008	76,595	63.98%
10	Massachusetts	57,413	102,391	56.07%
11	Connecticut	20,297	36,207	56.06%
12	Michigan	90,988	162,622	55.95%
13	Virginia	59,025	106,132	55.61%
14	Washington	58,163	106,358	54.69%
15	Maryland	36,634	80,314	45.61%
16	Ohio	86,770	201,175	43.13%
17	Colorado	29,248	71,708	40.79%
18	California	259,660	738,555	35.16%
19	Kentucky	28,902	89,746	32.20%
20	Rhode Island	5,699	18,148	31.40%
21	New Mexico	14,879	50,310	29.57%
22	Oregon	16,241	55,067	29.49%
23	South Carolina	21,540	73,074	29.48%
24	Nevada	4,197	14,697	28.56%
25	Maine	6,636	25,919	25.60%
26	West Virginia	10,527	42,474	24.78%
27	Arkansas	12,569	56,862	22.10%
28	Tennessee	18,652	94,514	19.73%
29	Kansas	10,171	53,681	18.95%
30	Oklahoma	16,517	89,480	18.46%
31	North Carolina	18,865	111,654	16.90%
32	Delaware	1,234	8,194	15.06%
33	Missouri	13,681	99,270	13.78%
34	North Dakota	2,202	18,484	11.91%
35	Texas	47,549	408,312	11.65%
36	Florida	33,860	291,938	11.60%
37	Nebraska	3,211	35,424	9.06%
38	Louisiana	7,172	127,648	5.62%
39	Utah	2,170	47,399	4.58%
40	New Hampshire.	669	15,353	4.36%
41	Arizona	2,751	93,081	2.96%
42	Hawaii	379	15,047	2.52%
43	Alaska	213	8,762	2.43%
44	Idaho	724	31,210	2.32%
45	Alabama	1,984	95,926	2.07%
46	South Dakota	346	20,212	1.71%
47	Georgia	2,165	130,316	1.66%
48	Wyoming	160	11,466	1.40%
49	Montana	314	28,658	1.10%
50	Mississippi	540	85,865	0.63%
	TOTALS	$ 2,577,033	$ 5,426,297	47.49%

uniform measure of federal support across all states. Across the states, the correlation between this measure of state outreach efforts to students from low income families and chance for college for students from low income families was +.30. The correlation between this measure and chance for college for all 19 year olds was +.36.

Indicator 4: Pell Grant Net Migration by State

Some states attract more undergraduates students than they export, and thus provide relatively attractive undergraduate opportunities. Other states export more than they import, and thus offer relatively unattractive educational opportunities to undergraduates. The same is true for low income students, as measured by Pell Grant recipients. Net migration rates for low income students provide a student-determined measure of the relative attractiveness of each state's postsecondary opportunities for students from low income family backgrounds.

Among the 50 states there were about 15,000 more immigrant than emigrant Pell Grant recipients. These students came from the District of Columbia, Puerto Rico and other outlying territories to the states for study. Rhode Island had the highest positive net migration rate of about 33 percent. While there were 12,427 Pell Grant recipients who were state residents, there were 16,531 Pell Grant recipients enrolled in Rhode Island institutions. The state gained about 4100 more Pell Grant recipients than it lost.

Arizona ranked second, although this may be more a quirk of data reporting than true migration of students. Other states with large net immigration rates were Utah, New Hampshire, Alabama, Virginia and North Dakota.

Indicator 4:
Pell Grant Net Migration by State
FY 1996-97

Rank	*State*	*Recipients by State of Institution*	*Recipients by State of Residence*	*Net Migrants*	*Net Migration Rates*
1	Rhode Island	16,531	12,427	4,104	33.02%
2	Arizona	71,474	60,846	10,628	17.47%
3	Utah	38,438	33,130	5,308	16.02%
4	New Hampshire	12,093	10,812	1,281	11.85%
5	Alabama	69,312	62,412	6,900	11.06%
6	Virginia	77,445	69,873	7,572	10.84%
7	North Dakota	13,203	11,989	1,214	10.13%
8	Tennessee	66,163	60,822	5,341	8.78%
9	West Virginia	27,306	25,568	1,738	6.80%
10	Massachusetts	72,422	67,843	4,579	6.75%
11	Kansas	38,976	36,571	2,405	6.58%
12	Vermont	8,518	8,012	506	6.32%
13	Missouri	69,993	65,947	4,046	6.14%
14	Iowa	44,442	41,910	2,532	6.04%
15	North Carolina	78,641	74,162	4,479	6.04%
16	Indiana	68,183	64,487	3,696	5.73%
17	Delaware	6,207	5,911	296	5.01%
18	South Dakota	13,739	13,085	654	5.00%
19	Kentucky	58,925	56,157	2,768	4.93%
20	Oklahoma	57,954	56,207	1,747	3.11%
21	Nebraska	25,633	24,925	708	2.84%
22	Georgia	96,419	93,797	2,622	2.80%
23	Pennsylvania	144,431	142,085	2,346	1.65%
24	Arkansas	35,877	35,404	473	1.34%
25	Colorado	48,171	47,536	635	1.34%
26	Minnesota	62,221	61,645	576	0.93%
27	Louisiana	76,163	75,472	691	0.92%
28	Idaho	19,933	19,786	147	0.74%
29	Mississippi	50,918	50,893	25	0.05%
30	Washington	66,775	67,076	-301	-0.45%
31	South Carolina	48,983	49,209	-226	-0.46%
32	Ohio	133,932	135,008	-1,076	-0.80%
33	Wyoming	7,293	7,382	-89	-1.21%
34	New York	332,203	337,060	-4,857	-1.44%
35	Texas	256,967	262,282	-5,315	-2.03%
36	Wisconsin	51,824	52,994	-1,170	-2.21%
37	Michigan	112,281	114,983	-2,702	-2.35%
38	Florida	182,094	186,526	-4,432	-2.38%
39	Maryland	52,436	53,819	-1,383	-2.57%
40	Oregon	35,175	36,119	-944	-2.61%
41	California	427,875	442,170	-14,295	-3.23%
42	Connecticut	24,245	25,058	-813	-3.24%
43	New Mexico	30,216	31,623	-1,407	-4.45%
44	Illinois	134,668	143,478	-8,810	-6.14%
45	Montana	16,134	17,690	-1,556	-8.80%
46	Nevada	9,190	10,081	-891	-8.84%
47	New Jersey	73,241	83,366	-10,125	-12.15%
48	Hawaii	8,494	9,749	-1,255	-12.87%
49	Maine	14,482	17,013	-2,531	-14.88%
50	Alaska	4,338	5,492	-1,154	-21.01%
	TOTALS	3,492,577	3,477,892	14,685	0.42%

At the other extreme, Alaska had a net migration rate of -21 percent. While 5,338 Alaskans received Pell Grants, there were only 4,338 Pell Grant recipients enrolled in Alaskan postsecondary institutions. Other states with substantial Pell Grant recipient emigration were Maine, Hawaii and that grand daddy of all student exporters New Jersey.

The correlation between the Pell Grant net migration rate and chance for college for students from low income families was +.15. The correlation of this measure with chance for college for all 19 year olds across the states was +.12.

Indicator 5: Proportion of Poor High School Students in Federal Pre-College Outreach Programs

In 1996-97 there were about 825,000 high school-aged students classified as poor by the Census Bureau. Of these, about 164,000 or 20 percent were enrolled in the federal pre-college outreach programs: Upward Bound and Talent Search. These programs are targeted on students from low income families where neither parent is a college graduate. These programs provide tutoring, mentoring, advising, academic, and campus visitation experiences to prepare students from low income families for college.

(Some states have similar pre-college outreach programs. These states include Indiana, Wisconsin, Pennsylvania, New Jersey, New York and others. We lack data to include their efforts in this analysis. However, the federal programs are available in all states on a competitive grant basis.)

Across the states, the enrollment of poor students in federal pre-college outreach programs ranged from 36 percent in Iowa to 4 percent in Washington. In addition to Iowa, states where a third or more of the

Indicator 5:
Proportion of Poor Students
in Federal Pre-College Outreach Programs, 1996-97

Rank	*States*	*Talent Search & Upward Bound Participants*	*Poor High School Students*	*Percent of Poor in Outreach Programs*
1	Iowa	7,845	21,788	36.01%
2	Alabama	18,020	50,513	35.67%
3	North Dakota	1,945	5,590	34.79%
4	Delaware	1,705	5,092	33.48%
5	Utah	5,255	15,831	33.19%
6	Vermont	1,445	4,469	32.33%
7	Wyoming	1,140	3,828	29.78%
8	Montana	2,545	8,772	29.01%
9	Hawaii	1,990	7,064	28.17%
10	New Hampshire	1,574	5,601	28.10%
11	South Carolina	10,375	40,821	25.42%
12	Arkansas	7,277	31,804	22.88%
13	Kansas	4,832	21,280	22.71%
14	Colorado	5,800	26,215	22.12%
15	Idaho	2,075	9,437	21.99%
16	Oklahoma	8,180	38,493	21.25%
17	Massachusetts	7,955	44,312	17.95%
18	Kentucky	9,453	52,658	17.95%
19	Alaska	805	4,548	17.70%
20	Minnesota	5,870	34,293	17.12%
21	Virginia	8,030	48,611	16.52%
22	North Carolina	9,544	58,588	16.29%
23	Nebraska	1,715	10,628	16.14%
24	Rhode Island	1,330	8,360	15.91%
25	New Mexico	4,490	29,980	14.98%
26	Louisiana	11,092	74,780	14.83%
27	South Dakota	1,085	7,536	14.40%
28	Tennessee	8,275	58,403	14.17%
29	Maine	1,460	10,527	13.87%
30	Maryland	4,280	31,760	13.48%
31	New Jersey	6,415	53,097	12.08%
32	Illinois	13,205	115,967	11.39%
33	Pennsylvania	12,635	113,274	11.15%
34	Connecticut	2,475	22,199	11.15%
35	Mississippi	5,320	47,864	11.11%
36	Georgia	8,720	81,596	10.69%
37	Wisconsin	4,450	42,498	10.47%
38	Indiana	5,080	48,719	10.43%
39	Nevada	900	9,599	9.38%
40	West Virginia	2,795	30,020	9.31%
41	Oregon	2,065	24,508	8.43%
42	Michigan	8,960	108,437	8.26%
43	California	32,408	400,731	8.09%
44	Ohio	8,207	115,391	7.11%
45	Texas	17,530	250,848	6.99%
46	Missouri	3,650	55,643	6.56%
47	New York	15,272	234,903	6.50%
48	Arizona	3,085	50,706	6.08%
49	Florida	5,695	132,027	4.31%
50	Washington	1,775	42,027	4.22%
	TOTALS	163,802	824,679	19.86%

poor students were in federal outreach programs were **Alabama, North Dakota, Delaware, Utah** and **Vermont**. In addition to Washington, states where less than 8 percent of poor students were in federal pre-college programs included **Florida, Arizona, New York, Missouri, Texas** and **Ohio**.

The correlation between the rate at which poor students were enrolled in pre-college outreach programs and chance for college for students from low income families was +.31. The correlation with the rate at which 19 year olds were enrolled in college was +.33 in 1996-97.

Indicator 6: Low Income Undergraduates Receiving Federal Supportive Services

In 1996-97 there were 1,465,000 federal Pell Grant recipients enrolled in postsecondary institutions in the 50 states. About 93,000 students from low income backgrounds received supportive services through one of two federal programs: Student Support Services or McNair Scholars programs. Nationally, about 6.3 percent of the low income population in higher education was served by one of these two supportive services programs. These services were provided above and beyond whatever supportive services were provided by the institutions where these students were enrolled.

Across the states, the ratio of students in federal supportive services programs to Pell Grant recipients ranged from 21 percent in Vermont to 0.3 percent in Alabama. Besides Vermont, states with ratios over 10 percent included **Montana, Hawaii, Maine, Wisconsin, North Dakota** and **Delaware**. Besides Alabama, states with ratios of less than 3 percent included **Florida, Georgia, California, Pennsylvania, Ohio** and **Arizona**.

Indicator 6:
Low Income Undergraduates
Receiving Federal Supportive Services, 1996-97

Rank	*States*	*Student Support Services & McNair Program Students*	*Pell Receiplents*	*Percent Receiving Services*
1	Vermont	1,800	8,518	21.13%
2	Montana	2,745	16,134	17.01%
3	Hawaii	1,260	8,494	14.83%
4	Maine	1,724	14,482	11.90%
5	Wisconsin	5,955	51,824	11.49%
6	North Dakota	1,400	13,203	10.60%
7	Delaware	640	6,207	10.31%
8	Arkansas	3,576	35,877	9.97%
9	Wyoming	720	7,293	9.87%
10	Kansas	2,825	38,976	7.25%
11	Minnesota	4,310	62,221	6.93%
12	Iowa	3,070	44,442	6.91%
13	West Virginia	1,850	27,306	6.78%
14	North Carolina	5,308	78,641	6.75%
15	South Dakota	915	13,739	6.66%
16	Nebraska	1,699	25,633	6.63%
17	Maryland	3,263	52,436	6.22%
18	Colorado	2,995	48,171	6.22%
19	New Mexico	1,861	30,216	6.16%
20	Massachusetts	4,222	72,422	5.83%
21	Alaska	250	4,338	5.76%
22	Nevada	515	9,190	5.60%
23	Louisiana	4,168	76,163	5.47%
24	Kentucky	3,160	58,925	5.36%
25	Oklahoma	3,075	57,954	5.31%
26	Indiana	3,496	68,183	5.13%
27	Virginia	3,900	77,445	5.04%
28	Missouri	3,479	69,993	4.97%
29	Illinois	6,612	134,668	4.91%
30	Washington	3,257	66,775	4.88%
31	South Carolina	2,320	48,983	4.74%
32	Oregon	1,650	35,175	4.69%
33	Mississippi	2,351	50,918	4.62%
34	New Hampshire	555	12,093	4.59%
35	Utah	1,706	38,438	4.44%
36	Michigan	4,847	112,281	4.32%
37	Idaho	790	19,933	3.96%
38	New Jersey	2,865	73,241	3.91%
39	Texas	9,490	256,967	3.69%
40	Tennessee	2,437	66,163	3.68%
41	Rhode Island	600	16,531	3.63%
42	Connecticut	834	24,245	3.44%
43	New York	10,921	332,203	3.29%
44	Arizona	2,068	71,474	2.89%
45	Ohio	3,810	133,932	2.84%
46	Pennsylvania	3,905	144,431	2.70%
47	California	11,555	427,875	2.70%
48	Georgia	2,155	96,419	2.24%
49	Florida	3,072	182,094	1.69%
50	Alabama	225	69,312	0.32%
	TOTALS	92,632	1,465,476	6.32%

The correlation between these ratios and chance for college for students from low income families across the states was +.38. For all 19 year olds the correlation was +.33.

Composite Ranking

These six indicators may be combined into a single composite indicator and ranking of state efforts to assist students from low income families to prepare for, gain access to, and succeed in higher education in 1996-97. Because this assessment parallels a similar (but not identical) assessment of state efforts in 1993-94, we can compare the efforts of states at two points in time. (See OPPORTUNITY #40, October 1995, for the 1993-94 assessment.)

We have compiled this composite ranking by averaging the ranks of each state across the six indicators used in this study. As shown in the table to the right, **Vermont** ranked first among the 50 state on two of the six indicators, second on one, sixth on two more, and twelfth on one. Vermont's average rank score was 4.7 easily ranking it first among the states in its commitment to state outreach to students from low income family backgrounds. Each state's average rank score is calculated in the same manner. The states are ranked by this average rank score in the table to the right.

The other states ranking in the top ten on this composite measure are **Iowa, Minnesota, Massachusetts, Virginia, Colorado, Indiana, Wisconsin, North Dakota and Pennsylvania.**

In this ranking, **Mississippi** ranks dead last among the states. On the six indicators, Mississippi ranked fiftieth on three measures, thirty-fifth on one, thirty-third on another and twenty-ninth on the sixth indicator. Other states in the bottom ten on state outreach efforts to students from low income families were **Georgia, Florida, Alaska, Texas, Arizona, Idaho, Hawaii, Montana** and **California**. Generally, these states just don't get it.

Even more amazing are the states that appear to do some things very well, and do others very poorly. **Montana, Hawaii and Wyoming** are examples. Each state hustles federal TRIO program funding hard with relatively large enrollments in Upward Bound, Talent Search, Student Support Services and McNair Scholars programs. But when it comes to spending state money to serve their own low income students, these states barely lift a finger. This is a credit to the TRIO programs in these states that try to serve students from low income families, despite their states and not because of state efforts.

Comparison with 1993-94 study. Because this study replicates a similar study of state outreach efforts to students from low income family backgrounds prepared with 1993-94 data, we can examine shifts in average state rank scores between 1993-94 and 1996-97. In fact most shifts are modest. But a few stand out out.

The largest gain in average rank score occured in **Nevada**--a state we called clueless in the earlier study. This state has clearly come to life. Nevada's average rank score increased from 48.0 in the earlier study to 30.2 in the current study. Its rank moved from fiftieth to thirty-fourth. The gains are broad-based, suggesting state leaders are making relatively bold decisions to foster higher educational opportunity for students from low income family backgrounds.

Another state that moved up sharply in the rankings was **Virginia**. In the 1993-94 study, Virginia's average rank score was 30.8, whereas it is now 15.2. This now places Virginia fifth among the states in outreach efforts to students from low income family backgrounds.

Between 1993-94 and 1996-97, several other states made notable gains in average rank scores. These were **Hawaii** (mainly because of its strong TRIO programming), **Kansas, Utah** (again because of strong TRIO programming), **Nebraska, New Hampshire and Wyoming.**

While some states were rising, others were falling. By far the largest loser was **Georgia** where its average rank score dropped from 20.8 and 40.8 during this three year period. Georgia goes out of its way to avoid assisting students from low income families finance their higher educations.

Rhode Island also slipped notably between 1993-94 and 1996-97. Its average rank score declined from 6.2 to 18.7, largely due to low TRIO programming efforts. Other states where average rank scores declined significantly were **Connecticut, Tennessee and New York.**

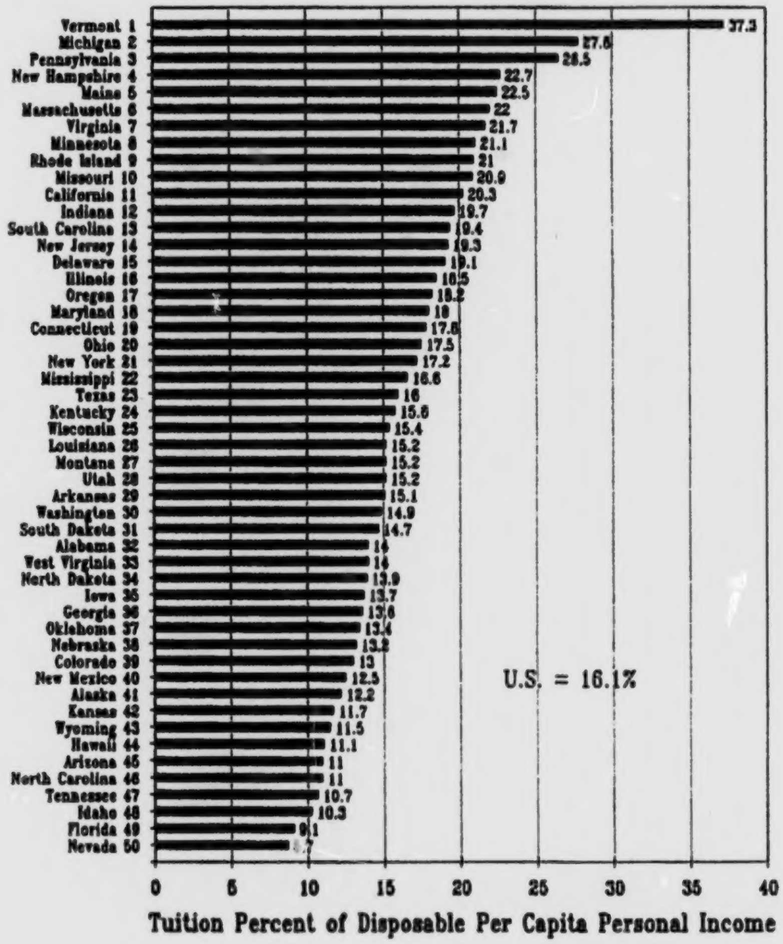
Correlations. We have examined the correlation between this composite mean ranking score and chance for college for students from low income families. In 1996-97 this correlation was .48. That is to say the composite is a better predictor of chance for college by state than are any of the six indicators separately.

We have also examined the correlation between chance for college for all students by age 19 with the average composite rank score. In 1996-97 the correlation was .56. The composite score is also a better predictor of chance for college than are any of the six indicators separately, as it is for low income students. But here these indicators of state outreach efforts to low income students also predict, even better, chance for college for all students in a state by age 19. Apparently, what works for students

Ranking Summary of State Outreach Efforts to Students from Low Income Families

		Indicators:								
Rank	*State*	*1*	*2*	*3*	*4*	*5*	*6*	*Mean Rank Score 96-97*	*Mean Rank Score 93-94*	*Change 93-94 to 96-97*
1	Vermont	2	1	6	12	6	1	4.7	5.2	0.5
2	Iowa	9	21	8	14	1	12	10.8	14.2	3.4
3	Minnesota	6	4	5	26	20	11	12.0	14.0	2.0
4	Massachusetts	8	10	10	10	17	20	12.5	15.8	3.3
5	Virginia	10	14	13	6	21	27	15.2	30.8	15.6
6	Colorado	15	13	17	25	14	18	17.0	20.4	3.4
7	Indiana	7	11	7	16	38	26	17.5	16.0	-1.5
8	Wisconsin	13	5	9	36	37	5	17.5	20.6	3.1
9	North Dakota	34	26	34	7	3	6	18.3	21.8	3.5
10	Pennsylvania	3	2	4	23	33	46	18.5	16.6	-1.9
11	Rhode Island	18	8	20	1	24	41	18.7	6.2	-12.5
12	Illinois	4	3	1	44	32	29	18.8	20.6	1.8
13	Kentucky	19	18	19	19	18	24	19.5	16.2	-3.3
14	Kansas	29	29	29	11	13	10	20.2	26.6	6.4
15	Arkansas	27	23	27	24	12	8	20.2	20.8	0.6
16	Delaware	37	31	32	17	4	7	21.3	22.4	1.1
17	New Jersey	5	9	2	47	31	38	22.0	21.2	-0.8
18	New York	1	6	3	34	47	43	22.3	17.0	-5.3
19	Maryland	17	17	15	39	30	17	22.5	24.0	1.5
20	South Carolina	25	33	23	31	11	14	22.8	22.0	-0.8
21	West Virginia	23	28	26	9	40	13	23.2	25.6	2.4
22	Maine	21	12	25	49	29	4	23.3	22.2	-1.1
23	Oklahoma	26	24	30	20	16	25	23.5	19.8	-3.7
24	Washington	11	15	14	30	50	30	25.0	22.2	-2.8
25	North Carolina	36	34	31	15	22	14	25.3	27.8	2.5
26	New Mexico	24	22	21	43	25	19	25.7	24.0	-1.7
27	Michigan	12	16	12	37	42	36	25.8	23.8	-2.0
28	Tennessee	28	25	28	8	28	40	26.2	19.4	-6.8
29	Ohio	14	7	16	32	44	45	26.3	23.8	-2.5
30	Utah	40	38	39	3	5	35	26.7	33.0	6.3
31	New Hampshire	38	37	40	4	10	34	27.2	31.4	4.2
32	Nebraska	39	27	37	21	23	16	27.2	32.2	5.0
33	Oregon	22	19	22	40	41	32	29.3	31.0	1.7
34	Nevada	30	20	24	46	39	22	30.2	48.0	17.8
35	Missouri	31	35	33	13	46	28	31.0	29.2	-1.8
36	Connecticut	20	39	11	42	34	42	31.3	24.2	-7.1
37	South Dakota	43	40	46	18	27	15	31.5	29.8	-1.7
38	Wyoming	47	47	48	33	7	9	31.8	35.8	4.0
39	Alabama	45	44	45	5	2	50	31.8	28.8	-3.0
40	Louisiana	35	43	38	27	26	23	32.0	30.6	-1.4
41	California	16	30	18	41	43	47	32.5	30.6	-1.9
42	Montana	44	48	49	45	8	2	32.7	36.2	3.5
43	Hawaii	49	45	42	48	9	3	32.7	39.8	7.1
44	Idaho	42	41	44	28	15	37	34.5	32.8	-1.7
45	Arizona	41	42	41	2	48	44	36.3	33.4	-2.9
46	Texas	33	36	35	35	45	39	37.2	34.8	-2.4
47	Alaska	48	49	43	50	19	21	38.3	38.8	0.5
48	Florida	32	32	36	38	49	49	39.3	34.8	-4.5
49	Georgia	46	46	47	22	36	48	40.8	20.8	-20.0
50	Mississippi	50	50	50	29	35	33	41.2	38.2	-3.0

State Flagship University Undergraduate Tuition & Fees as a Percent of State Per Capita Disposable Personal Income



from low income families works even better for all students.

While these six indicators of state efforts to serve students from low income families have a research basis to justify their use as indicators, we have validated them with separate correlations. But states try other policy approaches to fostering higher educational opportunity that are not supported by social science research. As shown in the following analyses, they do not get the results they seek--in fact they get just the opposite.

Low Public Institution Tuition and Fees as State Outreach Policy

In many states without significant state grant programs, fostering higher educational opportunity is pursued through a deliberate policy of low tuition charges in public colleges and universities. These states apparently believe that low tuition encourages all to attend college. These policies are often pursued in relatively poor states, with low per capita personal incomes. And it is certainly true that the price of higher education faced by students and their families is more transparent in these states than it is in other states that rely on need-based grant programs to assure college affordability.

Low tuition for all is by definition an inefficient way to use limited state resources to maximize higher educational opportunity. All students face the same sticker price, which in public institutions is heavily subsidized by state and sometimes local government funds. All students receive similar state subsidies, regardless of whether they need the subsidy or not. The use of limited public funds to keep tuitions low for students who could afford to pay for more or all of their higher educations denies these state funds to other students who need help paying college attendance costs.

We have used the data on public institution tuition and fees collected and reported by the State of Washington Higher Education Coordinating Board to look at the relationship between tuition rates and higher educational opportunity. We have also controlled these public tuition and fee rates with state per capita disposable personal income.

Public university resident undergraduate tuition and fees. In 1996-97, state flagship university tuition and fee charges for resident undergraduate students ranged from $1768 at the University of Idaho to $7211 at the University of Vermont. The chart on this page ranks the states according to their state flagship university tuition and fees for resident undergraduates divided by state per capita disposable personal income. The range in the resulting ratio is from 8.7 percent in Nevada to 37.3 percent in Vermont. The national average is 16.1 percent.

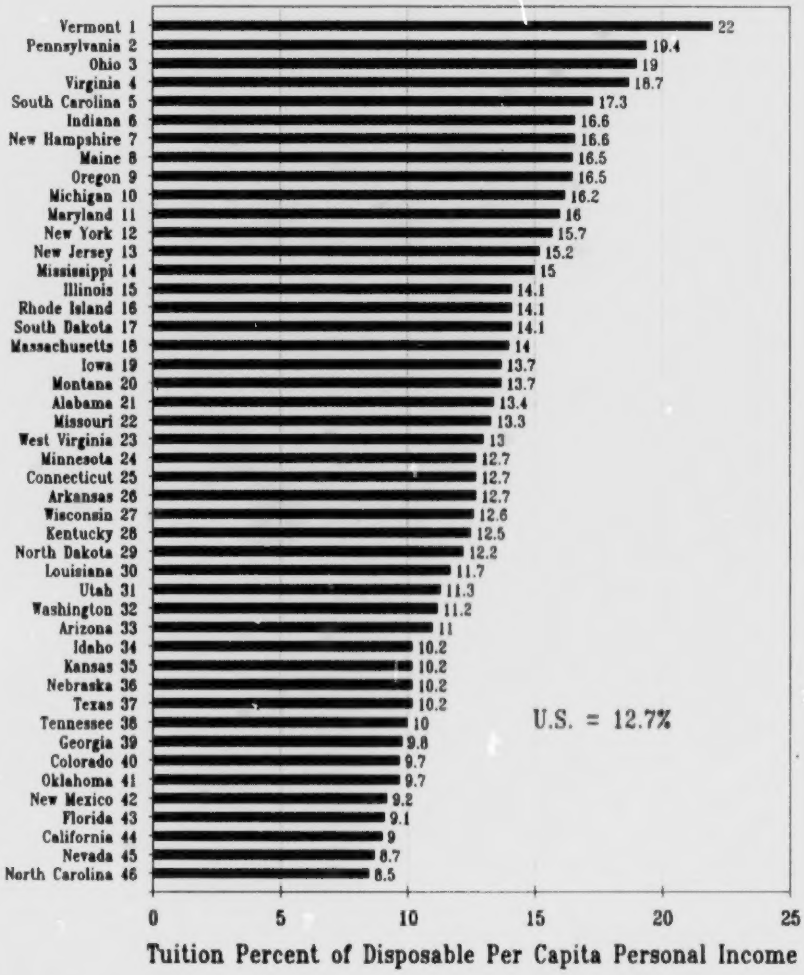
On initial examination, it appears that some states expect their citizens who pursue higher education to dig far deeper into their own pockets (or borrow more) than do other states. But Vermont as we have already seen (Indicators 2 and 3) provides state grants to a large number of its undergraduates students--more than the numbers who receive federal Pell Grants. In fact few if any financially needy Vermonters pay the high sticker price at the University of Vermont. Those who do pay the full sticker price are most likely able to afford it insofar as their expected family contribution from federal need analysis exceeds their costs of attendance there.

The correlation between chance for college for students from low income families by state and state flagship university tuition and fees is +.44. This is a striking finding: chance for college *increases* with flagship university tuition rates. This correlation increases further, to +.45, when extended to flagship university tuition and fee rates are adjusted for state per capita disposable personal income. This means that the chance that a student from a low income family will reach college is higher in those states that set flagship university tuition and fee rates at relatively high levels. It also means that chance for college for students from low income families tends to be lowest in those states that set their flagship university tuition rates relatively low.

A similar result occurred when we examined chance for college by age 19 by state and flagship tuition rates for undergraduates. This includes all 19 year olds, not just those from low income families. The correlations were +.38 with the raw tuition rate, and +.28 for the tuition rate adjusted for state per capita disposable personal income.

Of course the high tuition states tend to be in the states that have their own significant state grant programs to offset their higher tuition rates for those with financial need to attend college. Likewise, the low tuition states seem to think that low tuition is all they need to do to foster higher education opportunity.

Regional University & College Undergraduate Tuition & Fees as a Percent of State Per Capita Disposable Personal Income

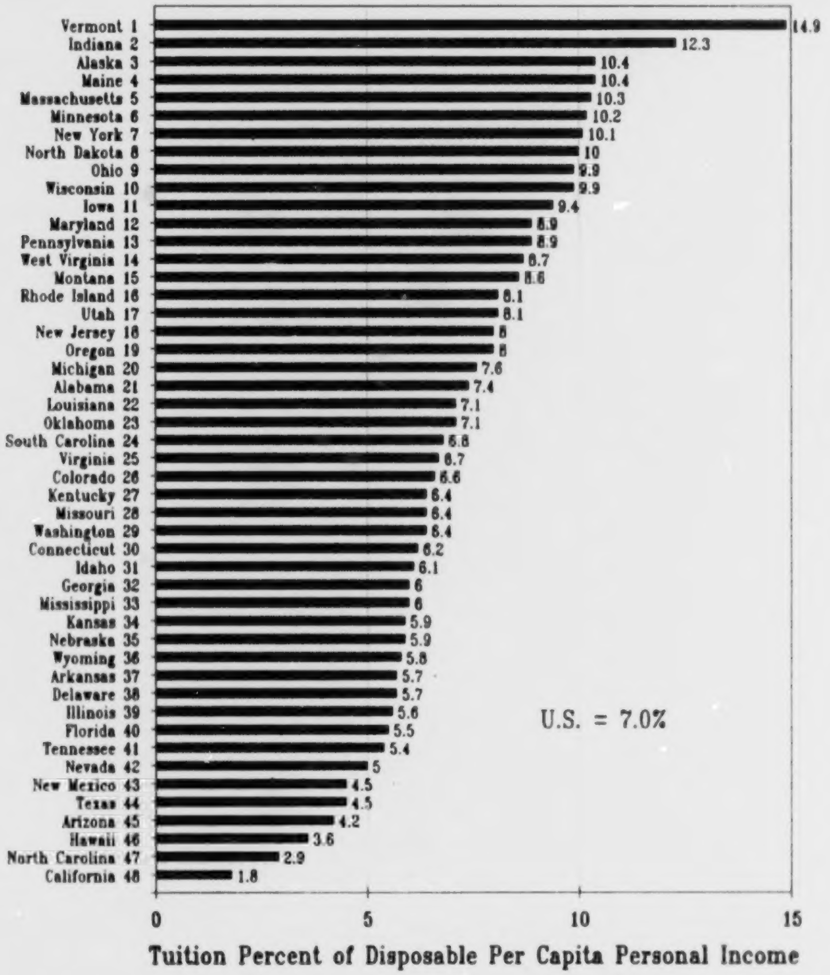


Regional public universities and colleges. In 1996-97, state regional universities and colleges charged tuition and fees at rates ranging from **$1514 in New Mexico** (Western New Mexico University) to **$4248 in Vermont** (average of Castleton and Lyndon State Colleges).

When expressed as a proportion of state per capita disposable personal income, these prices ranged from 6.8 percent in **North Carolina** to 22.0 percent in **Vermont**, as shown in the chart on this page. Here too we see few if any students paying the highest sticker prices in Vermont because of the state grant program in place there.

The correlation between chance for college for students from low income families and raw tuition and fee rate is +.48 in the 46 states that have state regional universities or colleges. The correlation with the tuition rate adjusted for per capita disposable personal income is +.45. These

Community College Undergraduate Tuition & Fees
as a Percent of State Per Capita Disposable Personal Income



correlations are comparable to those with state flagship university tuition rates--both raw and adjusted--for students from low income families. The simple interpretation is that chance for college tends to be higher in states with high regional state university and college tuition rates. Similarly, chance for college for students from low income families tends to be lowest in states with relatively low tuition rates in these institutions.

The correlation between chance for college for all 19 years olds in a state and raw tuition and fee rates at public regional universities and colleges is +.35. When tuititon and fee rates are adjusted for per capita state disposable personal income, the correlation with chance for college for all 19 year olds is +.22.

Community colleges. In 1996-97, estimated state average resident tuition and required fees for community colleges ranged from $390 in California to $2880 in Vermont. The average across the 50 states was $1457. Adjusted for state per capita disposable personal income, the ratios varied from 1.8 percent in California to 14.9 percent in Vermont, with a national average of 7.0 percent.

Community colleges typically serve a lower income population than do 4-year colleges. Among first-time, full-time college freshmen in 1996, median family income for community college students was $43,100, compared to $53,800 in 4-year colleges and $62,300 in universities.

Thus, some argue that keeping community college tuition and fee rates low is important to the provision of higher education access. But, quite the opposite is true. Across the 48 states with community colleges, the correlation between chance for college for students from low income families and raw tuition and fee rates is +.57. The correlation with adjusted tuition and fee rates is +.59. Not only were these correlations positive, they were greater than for any other type of public institution.

For all 19 year olds in a state, the correlation between chance for college and raw community college tuition and fee rates was +.40, and for adjusted tuition and fee rates the correlation was +.32.

These findings strongly contradict the conventional wisdom that it is wise public policy to keep community college tuition and fee rates low to foster higher educational opportunity for students from low income family backgrounds, or from all family income levels for that matter.

Merit-Based State Grant Programs

Currently many states are considering adopting lottery-financed state merit-based grant programs modeled on Georgia's HOPE Scholarship Program. These programs ignore financial need when making scholarship awards and instead focus on measures of academic promise.

Georgia requires its recipients to get B-average grades.

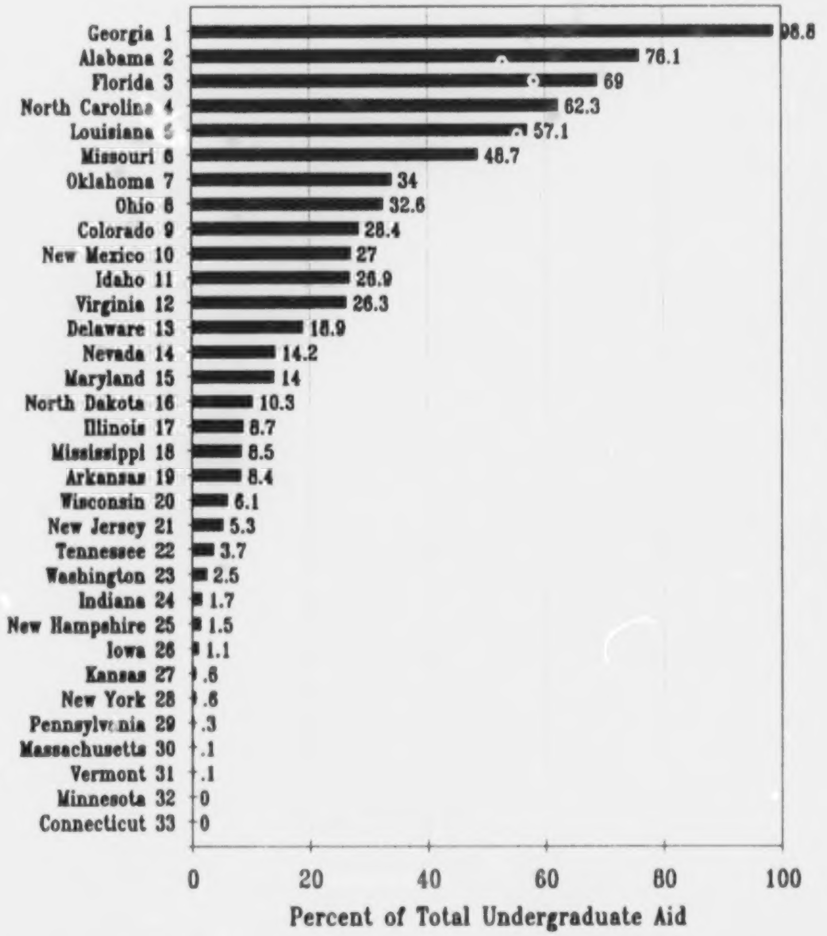
Historically, state financed merit based scholarship programs have been concentrated mainly in the South. In 1996-97, 55 percent of all state merit based programs were located in just two states: Georgia and Florida. A total of 77 percent were located in the states of the old South. The top five states that awarded more than half of their state financial aid on a non-need basis were all southern states. Currently, most of the interest in Georgia's program is coming from other southern states as well.

The chart on this page shows the proportion of state student financial aid dollars that are awarded on a non-need basis. Usually this means merit, but many states have small financial aid programs for children and widows of public employees who have died in service, such as policemen, firemen, etc. These programs are a small part of this picture and not germane to the following discussion.

Across the 50 states, the correlation between chance for college for students from low income families and the proportion of state financial aid dollars awarded on a non-need basis was -.33. That is to say, states that make substantial investments in merit-based student financial aid programs tend to have relatively low chances for students from low income families of reaching college. Expressed another way, merit-based aid does not help students from low income families reach college.

The correlation between chance for college for all 19 years olds in a state and the proportion of a state's financial aid investment awarded on a non-need basis was -.41. This says even more starkly that non-need based financial aid does not broaden higher educational opportunity in a state.

Non-Need Based Aid for Undergraduates
for States with Non-Need Based Student Aid
1996-97



Merit-based state scholarship programs skew the distribution of financial aid resources in a variety of ways. If we use Georgia's B-average high school grades as a reference,

- By gender, 78 percent of women college freshmen report B or better high school grade averages, compared to 66 percent of males.
- By race/ethnicity, 84 percent of Asians report B or better high school grades, compared to 74 percent for whites, 67 percent for Puerto Ricans, 65 percent for Chicanos and 57 percent for blacks.
- By parental educational attainment, about 79 percent of those whose parents had post-baccalaureate education had B or better high school grades, compared to 76 percent for those whose parents were bachelor's degree holders, 69 percent of those whose parents were high school graduates and about 62 percent of those whose parents did not graduate from high school.
- About 76 percent of those from 2-parent families reported B or better high school grades, compared to 66 of those from single parent

and 61 percent of those where one or both parents were dead.

More important, about 76 percent of those from families with incomes of more than $50,000 per year reported B or better high school grades. This proportion dropped steadily with family incomes below $50,000 per year to a low of 61 percent for those from families with incomes below $6000 per year. And perhaps most important, voting rates increase with income. In the 1996 presidential election voting rates ranged from 38 percent of those with incomes below $10,000 to 76 percent of those with incomes over $75,000.

Summary

This study examined state efforts to extend higher educational opportunity to students from low income family backgrounds. The six measures used are all highly correlated with chance for college for students from low income family backgrounds. They also are also highly correlated with chance for college for all 19 years olds regardless of family income. These six measures generally fall into two categories: three that focus state financial investment on students from low income family backgrounds, and three that measure the supportive educational environment for students from those same low income families.

By these measures some states stand out from the others in their efforts and success at fostering higher educational opportunity, both for students from low income families and for all students regardless of family income. These states include **Vermont, Iowa, Minnesota. Massachusetts** and **Virginia.** The states that made the most progress towards these opportunity-fostering policies between 1993-94 and 1996-97 were **Nevada** and **Virginia**.

At the other end of the scale are those states that do virtually nothing to foster higher educational opportunity for students from low income families. These states include **Mississippi, Georgia, Florida, Alaska, Texas** and **Arizona.**

In addition this study examined two popular state policies for fostering higher educational opportunity: low tuition and fees in public institutions and state funded merit-based scholarship programs. Both of these approaches are highly negatively associated with chance for college, both for students from low income families and all students, regardless of family income.

This study has demonstrated the course for states to take that want to broaden opportunities for higher education. It also identified the popular and expensive gimmicks that have not accomplished this end. States: The ball is in your lap. You choose.

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As you sow . . . *. . . so shall you reap*

Why College?

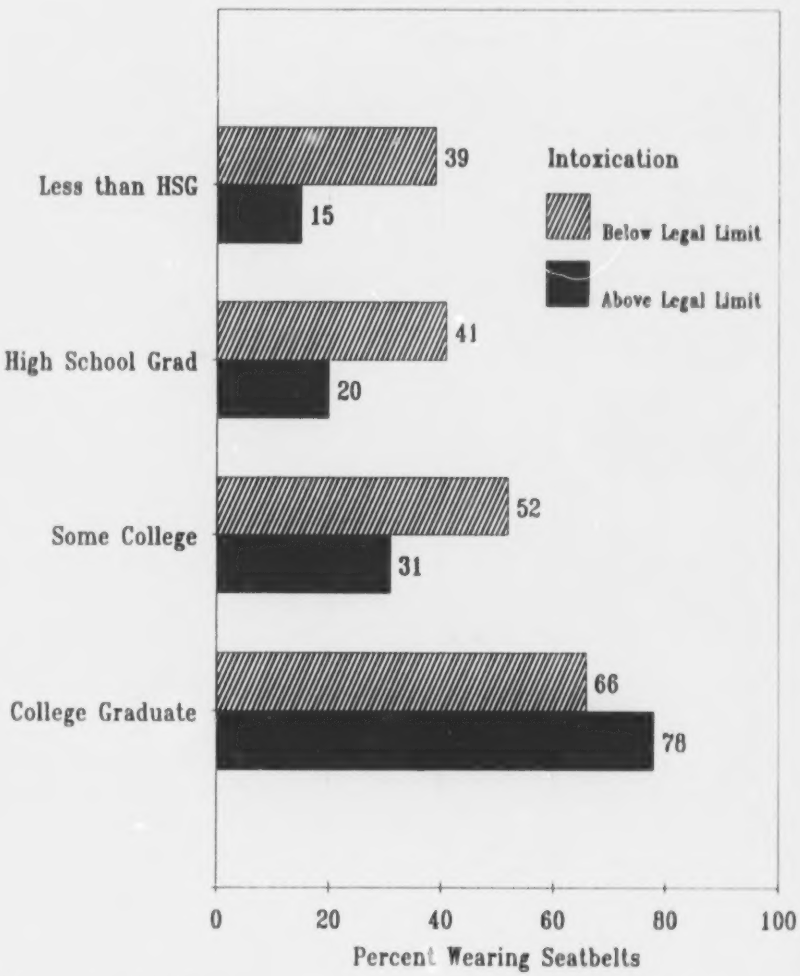
Private Correlates of Educational Attainment

College is an investment. An investment is an expenditure with an expectation of a return as income or profit. Some of the returns from a college investment are the well known economic benefits of college education. Other profits or benefits are not so well known, although in a subjective way we seem to sense and appreciate that these non-financial benefits exist and are significant.

In this issue of OPPORTUNITY, we examine a broad array of the benefits of college education. These include employment, benefits from employment besides earnings, health, lifestyle choices, family life, performance of children in school and civic engagement. While this list is not inclusive, it does suggest the wide range of benefits from a college investment.

Some of these benefits derive more-or-less directly from the better jobs and higher incomes of college graduates compared to those who have not attended college. But other benefits of college are linked to other aspects of college attendance like learning to make informed and critically considered choices. One example is that shown in the chart to the right. Other benefits may result from the social relationships developed in college. One of the most obvious benefits of college attendance is the time for young adults to mature outside of direct family influence in a relatively protected setting.

Seatbelt Use while Driving Intoxicated
by Educational Attainment



What our data describe are measures of the condition of adults in terms of their educational attainment. Usually, these data have been reported at four levels of educational attainment:

- Less than high school graduate
- High school graduate
- Some college, including associate

degree
- Bachelor's degree or more

Different surveys have used somewhat different measures of educational attainment. We have tried to accommodate these anomalies within the traditional reporting structure.

While these data describe the condition of individuals, they also describe the condition of families, communities, states and the country. All are aggregates of these individuals. And because people with given levels of educational attainment--or lack thereof--tend to cluster, these data also measure the condition of families, communities, states and the country.

Usually, more is better. Nearly all of the measures reported here show that people with more education live better lives than do those with less education. Greater income leads to more choices in life, choices that address qualitative aspirations through private preferences about how to live life.

But along with education comes knowledge and critical thinking skills. These skills enable better educated people to make smarter choices for themselves. And these skills benefit others through the leadership positions they assume in businesses, government and our social institutions.

The balance of this issue of OPPORTUNITY summarizes more than 100 of these private correlates of educational attainment. They are grouped under the following headings:
- Population
- Employment and unemployment
- Income, benefits, wealth and expenditures
- Poverty, welfare and dependency
- Health and nutrition
- Personal life
- Family life
- Performance of children in school
- Civic life
- Crime and punishment

The Data

While this listing represents many years of data collection from many sources, in fact several sources provide most of these data on a regular basis. These sources are:

- Current Population Survey, administered by the Census Bureau, with results often published in *Current Population Reports*, particularly in the P20 and P60 series. Useful data from the CPS are also published by the Bureau of Labor Statistics. The CPS data are always available at more detailed disaggregations of educational attainment than those used here.
- *Statistical Abstract of the United States, 1998*, published by the Census Bureau. Provides often unpublished federal data, as well as data by educational attainment from many private sources.
- *Health, United States, 1998, with Socioeconomic Status and Health Chartbook*, published by the Department of Health and Human Services, National Center for Health Statistics.

Other sources for data on educational attainment that are cited here include the Department of Defense, Federal Reserve System, Bureau of Justice Statistics, National Center for Education Statistics, as well as many private polling and research services. We are grateful to them all.

A Note on Economic Valuation

This summary has not focused on measurement of the direct economic benefits of a college investment. These outcomes are reported in more detail and often in these pages of OPPORTUNITY because they are so directly relevant to the making of public policy. The measures reported here are rarely acknowledged by public policy makers in the policy

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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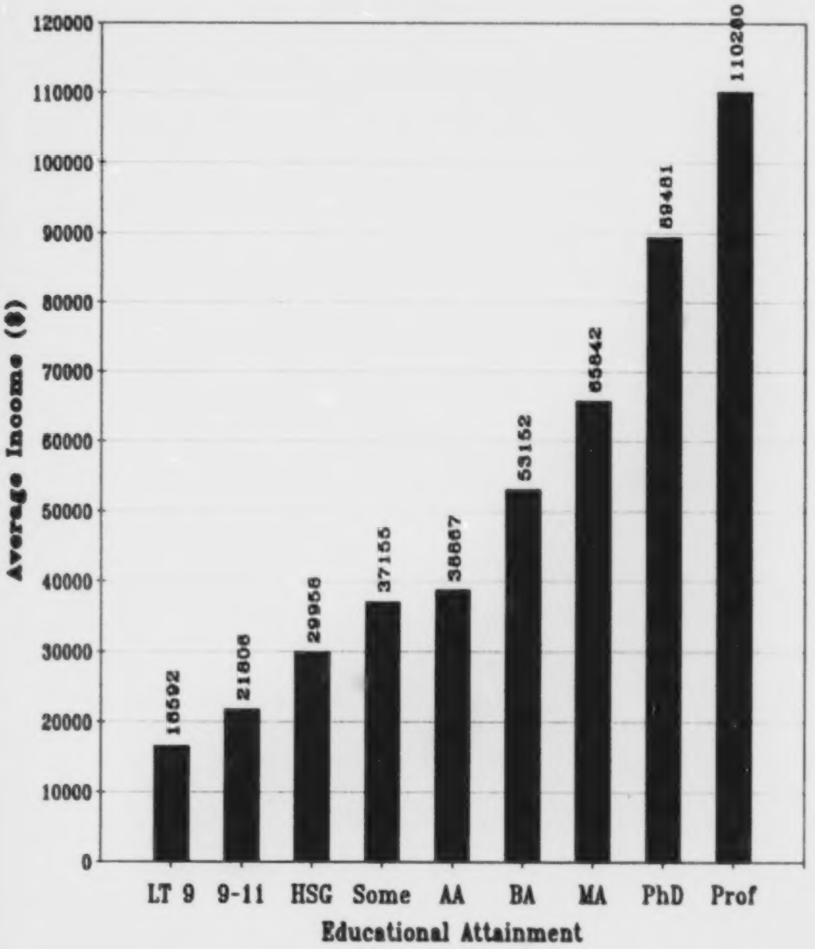


Average Annual Income by Educational Attainment for Males 25 Years and Over 1997

process. For this reason we have left most of these economic indicators out of this summary and focused in our tabulation on the non-economic benefits of a college investment.

While the economic benefits are more fully developed in past and future issues of OPPORTUNITY, we want to acknowledge them here because they form the language of state policy makers today. Following nearly twenty years of reductions in state financial support for public higher education, governors and legislators appear to have finally come to some appreciation of the contribution of higher education to state economic development. Skilled labor shortages are now limiting business development, and governors do listen attentively to business leaders in their states.

Income by education for individuals. The economic benefits of higher education are typically measured as the differences between the incomes of the college and the non-college educated. For example, in the chart on this page for males 25 years and older, the average annual income in 1997 for a high school graduate was $29,958, compared to $53,152 for a male with a bachelor's degree. These data were downloaded from the Census Bureau's website, and were collected in the Current Population Survey. The difference in annual income was $23,194. Over a 40 year working lifetime this difference converts to $927,760. This is the economic benefit from college for a male.

For females the calculation is similar. The average annual income in 1997 for a female age 25 years and older who was a high school graduate was $16,678. A female with a bachelor's degree earned an average of $30,574. The difference was $13,896, or over a 40 year working lifetime was $555,840.

Costs of attending college. Treated as an investment, we must include the costs of acquiring a bachelor's degree to understand the investment value of a college degree. According to The College Board's recent report on *Trends in College Pricing, 1998*, the average annual total expenses for a campus resident undergraduate at a public 4-year college or university was $10,458 for 1998-99. Over four years this would total $41,832.

At an average cost private 4-year college or university, expenses totalled $22,533 per year for an undergraduate student. Over four years this totals $90,132.

Benefit/cost ratios. If one were to combine these benefits and costs, the ratios would look something like this. For a male graduating from a public 4-year institution, the benefit/cost ratio would be:

($23,194/year * 40 years)/($10,458/year * 4 years) = 22.18

Or, expressed another way, a male would receive back $22.18 in increased lifetime income for each $1.00 spent attending a public college or university for four years to get the degree.

For a female the calculation is:

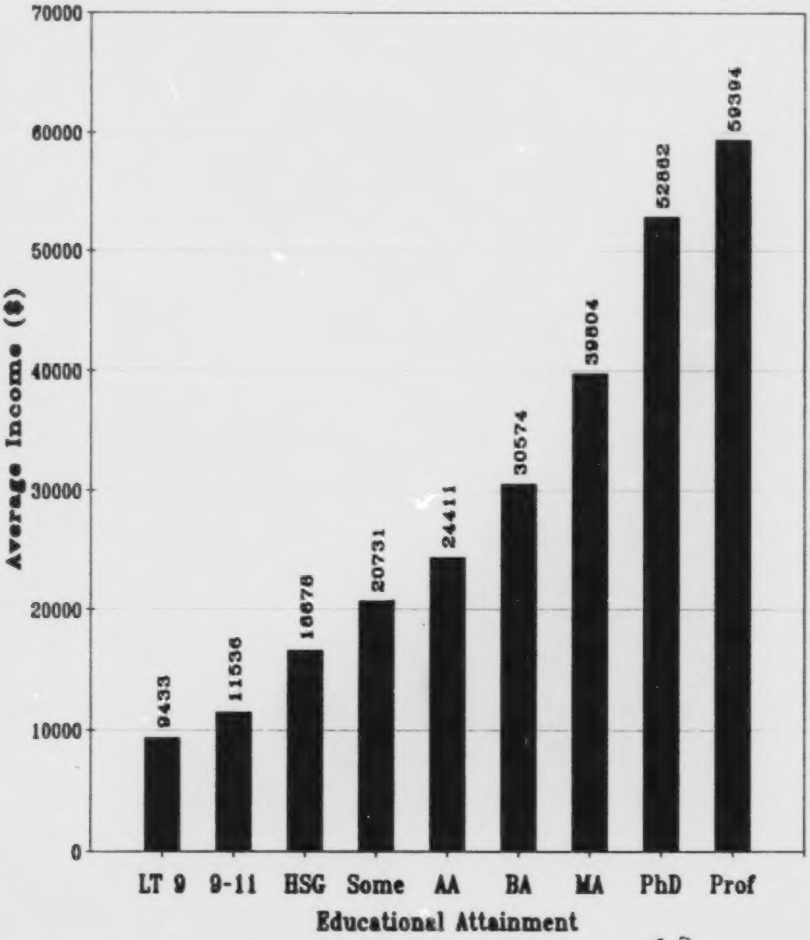
($13,896/year * 40 years)/ ($10,458/year * 4 years) = 13.29

Or, expressed as above, a female earns back $13.29 in increased lifetime income for each dollar spent earning the bachelor's degree. Similar calculations for bachelor's degrees from private colleges show lifetime returns of $10.29 for males and $6.17 for females.

Obviously, these returns vary by gender, by field of study and by whether or not the student received financial aid to finance their college expense budgets. They probably also vary by student characteristics, institution attended, region of the country, luck and other factors.

Private rate of return calculations. Economists use a more complex version of the above benefit/cost model to calculate the rate of return to individuals on a college investment decision. The benefit portion of the calculation discounts the future lifetime earnings stream to a present value through a discount rate. The cost portion of the calculation adds foregone income while enrolled in college (assuming the student does not work while attending college) to the cost of getting the degree, and here too future costs are discounted to present values.

Average Annual Income by Educational Attainment for Females 25 Years and Over 1997



Leslie and Brinkman reported in *The Economic Value of Higher Education* in 1988 that their meta analysis of the private rate of return studies for the undergraduate degree were in the range of 11.8 to 13.4 percent. However, they cautioned:

> *Traditional rate of return calculations include only direct monetary benefits. Other benefits may be roughly equal to the monetary ones, causing true rates of return to be much higher than stated in this overview.* (p. 41)

What are these non-monetary benefits from college? Walter McMahon has defined them as follows:

> *Non-monetary returns to education are those that contribute to the production of final satisfactions during leisure time hours and after retirement.*

These non-monetary benefits are an important part of the following tabulation of private correlates of educational attainment. They are the main reason for this particular report. They enrich our private lives, the lives of our families, the lives of our communities and the states and nation in which we live. And if one believes that money is no end in itself but rather a means to the ends that define and enrich our lives, then this summary provides a broad outline and justification for private and social investments in higher educational opportunity.

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Population					
Educational Attainment of Population 25 Years and Over (1997)(% Distribution)					Bureau of the Census. *Current Population Reports*, P20-505, 459, and 1990 Census.
Total	17.9%	33.8%	24.4%	23.9%	
White	17.0%	33.9%	24.5%	24.6%	
Black	25.1%	35.9%	25.7%	13.3%	
Hispanics	45.3%	25.9%	18.5%	10.3%	
Asian	15.1%	23.2%	19.5%	42.2%	
Arab-Americans	17%	21%	27%	35%	
Male	18.0%	32.1%	23.7%	26.2%	
Female	17.8%	35.3%	25.2%	21.7%	
Educational Attainment of Population by Age (1997) (% Distribution)					Bureau of the Census. *Current Population Reports*, P20-505.
25 to 29 years	12.6%	30.3%	29.3%	27.8%	
30 to 34 years	12.8%	32.9%	27.9%	26.4%	
35 to 39 years	12.5%	35.2%	27.4%	24.9%	
40 to 44 years	11.3%	34.1%	28.2%	26.4%	
45 to 49 years	12.2%	31.8%	26.7%	29.3%	
50 to 54 years	14.4%	34.1%	24.3%	27.2%	
55 to 59 years	20.1%	36.6%	21.2%	22.1%	
60 to 64 years	25.0%	37.0%	18.8%	19.2%	
65 to 69 years	29.1%	36.0%	17.6%	17.3%	
70 to 74 years	32.1%	35.2%	17.4%	15.3%	
75 years old and over	39.6%	32.5%	15.2%	12.7%	
Educational Attainment by Marital Status, Age 25 and over (1997) (% Distribution)					Bureau of the Census. *Current Population Reports*, P20-505.
Never married	16.4%	29.9%	25.8%	27.9%	
Married spouse present	15.0%	34.1%	24.6%	26.3%	
Married spouse absent	29.7%	32.9%	23.6%	13.8%	
Separated	28.0%	35.6%	24.7%	11.7%	
Widowed	39.7%	34.3%	16.0%	10.0%	
Divorced	16.2%	36.4%	28.8%	18.6%	
Educational Attainment of Population by Region (1997) (% Distribution)					Bureau of the Census. *Current Population Reports*, P20-505.
Northeast	17.5%	35.8%	20.1%	26.6%	
Midwest	14.8%	38.3%	24.4%	22.5%	
South	20.7%	33.6%	23.8%	21.9%	
West	16.9%	27.5%	29.7%	25.9%	
Educational Attainment of Population by Metropolitan and Nonmetropolitan Residence, Age 25 and over (1995) (% Distribution)					Bureau of the Census. *Current Population Reports*, P20-489.
Metropolitan areas over 1,000,000	17.2%	30.8%	25.0%	27.0%	
Central cities	23.4%	29.6%	22.6%	24.4%	
Balance of MSA	13.7%	31.5%	26.4%	28.4%	
Metropolitan areas under 1,000,000	17.0%	34.9%	25.5%	22.6%	
Central cities	18.2%	32.6%	26.2%	23.0%	
Balance of MSA	16.3%	36.2%	25.1%	22.4%	
Nonmetropolitan area	23.1%	39.0%	23.1%	14.8%	

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Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Educational Attainment for Persons 25 and Over by State (1990) (% Distribution)	**24.8%**	**30.0%**	**24.9%**	**20.4%**	Bureau of the Census, *1990 Census of Population*, CPH-L-96.
Alabama	33.1%	29.4%	21.8%	15.6%	
Alaska	13.4%	28.7%	34.8%	23.0%	
Arizona	21.3%	26.1%	32.2%	20.3%	
Arkansas	33.7%	32.7%	20.3%	13.4%	
California	23.8%	22.3%	30.5%	23.4%	
Colorado	15.6%	26.5%	30.9%	27.0%	
Connecticut	20.8%	29.5%	22.5%	27.2%	
Delaware	22.5%	32.7%	23.4%	21.4%	
District of Columbia	26.9%	21.2%	18.7%	33.3%	
Florida	25.6%	30.1%	26.0%	18.3%	
Georgia	29.1%	29.6%	22.0%	19.3%	
Hawaii	19.9%	28.7%	28.4%	22.9%	
Idaho	20.3%	30.4%	31.7%	17.7%	
Illinois	23.8%	30.0%	25.2%	21.1%	
Indiana	24.4%	38.2%	21.9%	15.6%	
Iowa	19.9%	38.5%	24.7%	16.9%	
Kansas	18.7%	32.8%	27.3%	21.1%	
Kentucky	35.4%	31.8%	19.3%	13.6%	
Louisiana	31.7%	31.7%	20.5%	16.1%	
Maine	21.2%	37.1%	23.0%	18.8%	
Maryland	21.6%	28.1%	23.8%	26.5%	
Massachusetts	20.0%	29.7%	23.0%	27.2%	
Michigan	23.2%	32.3%	27.1%	17.3%	
Minnesota	17.6%	33.0%	27.6%	21.9%	
Mississippi	35.7%	27.5%	22.1%	14.8%	
Missouri	26.1%	33.1%	22.9%	17.8%	
Montana	19.0%	33.5%	27.7%	19.8%	
Nebraska	18.2%	34.7%	28.2%	19.0%	
Nevada	21.2%	31.5%	32.0%	15.3%	
New Hampshire	17.8%	31.7%	26.1%	24.3%	
New Jersey	23.3%	31.1%	20.7%	24.8%	
New Mexico	24.9%	28.7%	25.9%	20.4%	
New York	25.2%	29.5%	22.2%	23.1%	
North Carolina	30.0%	29.0%	23.6%	17.4%	
North Dakota	23.3%	28.0%	30.5%	18.0%	
Ohio	24.3%	36.3%	22.3%	17.0%	
Oklahoma	25.4%	30.5%	26.3%	17.8%	
Oregon	18.5%	28.9%	31.9%	20.6%	
Pennsylvania	25.3%	38.6%	18.1%	17.9%	
Rhode Island	28.0%	29.5%	21.3%	21.3%	
South Carolina	31.7%	29.5%	22.1%	16.6%	
South Dakota	22.9%	33.7%	26.2%	17.2%	
Tennessee	32.9%	30.0%	21.1%	15.9%	
Texas	27.9%	25.6%	26.3%	20.4%	
Utah	14.9%	27.2%	35.7%	22.2%	
Vermont	19.2%	34.6%	21.9%	24.3%	
Virginia	24.8%	26.6%	24.0%	24.5%	
Washington	16.2%	27.9%	32.9%	22.9%	
West Virginia	34.0%	36.6%	17.0%	12.3%	
Wisconsin	21.4%	37.1%	23.8%	17.7%	
Wyoming	17.0%	33.2%	31.1%	18.8%	

Correlate	Educational Attainment: Less Than HSG	Educational Attainment: High School Grad[a]	Educational Attainment: Some College[b]	Educational Attainment: Bachelor's Degree or More[c]	Source
Educational Attainment in Outlying Areas for Persons 25 and Over (1990) (Percent Distribution)					Bureau of the Census. 1990 Census data tapes.
Puerto Rico	50.3%	21.0%	14.4%	14.3%	
Virgin Islands	43.5%	25.2%	16.2%	15.1%	
Guam	26.7%	33.3%	22.5%	17.5%	
American Samoa	45.5%	32.0%	15.6%	6.9%	
Northern Mariana Islands	33.7%	35.2%	15.5%	15.6%	
Educational Attainment of Natives and Foreign Born (1996) (% Distribution)					Bureau of the Census. *Current Population Reports*, P20-494.
Native	16.0%	60.4%		23.6%	
Foreign Born	35.6%	40.9%		23.5%	
Naturalized Citizen	21.2%	48.1%		30.8%	
Not a Citizen	44.4%	36.5%		19.1%	
Year of Entry					
Before 1970	30.7%	50.0%		19.3%	
1970 to 1979	35.8%	40.6%		23.6%	
1980 to 1989	38.5%	37.8%		23.6%	
1990 to 1996	36.8%	34.3%		28.9%	
Educational Attainment of American Indians (25 and older) (1990)	34.4%	56.2%		9.4%	Bureau of the Census. *1990 Census of Population, Characteristics of American Indians by Tribe and Language*, CP-3-7.
Cherokee	31.8%	57.1%		11.1%	
Navajo	49.0%	46.5%		4.5%	
Sioux	30.3%	60.8%		8.9%	
Chippewa	30.3%	61.5%		8.2%	
Choctaw	29.7%	57.0%		13.3%	
Pueblo	28.5%	64.2%		7.3%	
Apache	36.2%	56.9%		6.9%	
Iroquois	28.1%	60.6%		11.3%	
Lumbee	48.4%	52.2%		9.4%	
Educational Attainment of Hispanics 25 Years and Over (1997)(% Distribution)					Bureau of the Census. Unpublished data.
All Hispanics	45.3%	44.4%		10.3%	
Mexican	51.4%	41.2%		7.4%	
Puerto Rican	38.9%	50.3%		10.8%	
Cuban	34.8%	45.5%		19.7%	
Central/South American	36.7%	48.5%		14.8%	
Other Hispanic	33.4%	51.7%		14.9%	
Employment and Unemployment					
Civilian Labor Force Status (1997) (Percent of Distribution)					Bureau of the Census. *Current Population Reports*, P20-505.
Employed	10.7%	32.8%	27.3%	29.2%	
Unemployed	25.6%	37.5%	23.6%	13.2%	
Not in labor force	31.7%	35.4%	18.8%	14.1%	
Worklife Expectancy at Birth (1979-80)					Bureau of Labor Statistics. *Monthly Labor Review*, August 1985.
Male	34.6 yrs	39.9 yrs		41.1 yrs	
Female	22.3 yrs	30.1 yrs		34.9 yrs	

Correlate	Educational Attainment Less Than HSG	 High School Grad[a]	 Some College[b]	 Bachelor's Degree or More[c]	Source
Civilian Labor Force Participation, Age 25 Years and Over (1996)					Bureau of Labor Statistics, unpublished data from Current Population Survey
Civilian noninstitutional population (000)	30,166	56,417	41,688	39,976	
Civilian labor force (000)	12,394	37,026	31,159	32,181	
Labor force participation rate					
Total	41.1%	65.6%	74.7%	80.5%	
Male	54.0%	76.6%	82.2%	85.1%	
Female	29.6%	56.6%	68.4%	75.3%	
White	41.6%	65.0%	73.9%	80.3%	
Male	55.2%	76.6%	82.0%	84.9%	
Female	29.2%	55.4%	66.9%	75.0%	
Black	37.6%	70.2%	80.2%	84.0%	
Male	46.8%	76.3%	83.1%	87.8%	
Female	30.3%	64.9%	78.1%	81.2%	
Hispanic	56.8%	74.6%	81.1%	83.0%	
Male	76.3%	86.5%	88.5%	89.1%	
Female	38.0%	62.8%	74.2%	75.6%	
Employed Workers Actively Seeking a New Job (1997)	4.4%	3.8%	5.4%	6.4%	Bureau of Labor Statistics. *Current Population Survey.* Unpublished data.
Use of Computers (18 and older) (1993)					Bureau of the Census. http://www.census.gov
Uses computers anywhere	6.3%	25.1%	50.5%	63.4%	
With computer at home	6.6%	16.7%	33.1%	48.7%	
Uses computer at home (% with computer)	30.4%	49.3%	67.9%	76.9%	
Uses computer at school (% of enrolled)	45.8%	51.7%	56.3%	50.5%	
Uses computer at work (% with a job)	10.0%	34.2%	52.6%	69.1%	
Use Computers on the Job (1993)	10.0%	34.2%	50.4%	68.8%	Bureau of the Census. Current Population Survey, October 1993, unpublished data.
Analysis/spreadsheets	19.1%	23.7%	33.5%	46.9%	
Bookkeeping/invoicing/inventory	54.4%	52.5%	49.5%	40.0%	
Communications	20.4%	29.4%	38.5%	45.1%	
CAD	3.8%	4.4%	7.3%	10.4%	
Data bases	22.2%	25.8%	33.9%	41.5%	
Desktop publishing/graphics	9.9%	13.3%	20.6%	28.8%	
Education	9.6%	9.5%	13.0%	19.4%	
Programming	8.8%	8.9%	11.3%	16.7%	
Sales and telemarketing	20.6%	17.6%	18.0%	17.0%	
Word processing	16.0%	30.8%	40.9%	54.8%	
Using 4 or more categories	21.8%	29.9%	40.0%	49.2%	
Men Unable to Work, Ages 25 to 49 (1993)	6.0%	2.2%	1.3%	0.4%	Bureau of Labor Statistics. *Monthly Labor Review,* November 1995.
Percent of Life Economically Active from Birth (1979-80)					Bureau of Labor Statistics. *Monthly Labor Review,* August 1985.
Male	49%	57%		59%	
Female	29%	39%		45%	

Correlate	Educational Attainment Less Than HSG	 High School Grad[a]	 Some College[b]	 Bachelor's Degree or More[c]	Source
Employment/Population Ratios, Age 25 Years and Over (1996)					Bureau of Labor Statistics, unpublished data from Current Population Survey
Total	37.5%	62.6%		78.7%	
Male	49.8%	73.0%		83.3%	
Female	26.6%	54.0%		73.5%	
White	38.3%	62.4%		78.6%	
Male	51.2%	73.5%		83.2%	
Female	26.4%	53.2%		73.2%	
Black	32.8%	63.8%		81.4%	
Male	41.5%	69.1%		84.6%	
Female	25.9%	59.2%		79.0%	
Hispanic	51.3%	69.6%		79.7%	
Male	70.5%	81.0%		86.0%	
Female	32.9%	58.4%		72.4%	
Unemployment Rates, Age 25 Years and Over (1997)					Bureau of Labor Statistics, unpublished data from Current Population Survey
Total	10.4%	5.1%	3.8%	2.0%	
Male	9.9%	5.6%	4.0%	2.1%	
Female	11.3%	4.5%	3.6%	2.0%	
White	9.4%	4.6%	3.4%	1.8%	
Black	16.6%	8.2%	6.1%	4.4%	
Hispanic	9.6%	7.5%	5.5%	3.0%	
Workers with Disabilities by Educational Attainment (1991-92) (Percent Distribution)					Bureau of the Census, *Americans with Disabilities*, P70-33.
No disability	15%	37%	23%	25%	
Mild disability	21%	39%	23%	17%	
Severe disability	29%	37%	20%	14%	
Educational Attainment of Active Duty Military Personnel (1997) (Percent of Total)					Department of Defense. *Selected Manpower Statistics, Fiscal Year 1997.* DIOR/M01-97.
Total Officers	0.0%	1.0%	4.8%	94.2%	
Commissioned Officers	0.0%	0.4%	1.8%	97.8%	
Warrant Officers	0.0%	10.8%	54.7%	34.5%	
Enlisted	0.9%	70.7%	24.7%	3.7%	
Educational Attainment by Occupation of Employed Persons Ages 18 to 64 Years (1995) (Percent Distribution)					Bureau of the Census. *Current Population Reports*, P20-489.
Executive, administrative, managerial	2.5%	17.3%	25.2%	55.0%	
Professional specialty	0.6%	4.1%	13.7%	81.5%	
Technicians and related support	2.0%	20.1%	43.0%	34.8%	
Sales	4.1%	27.8%	30.8%	37.4%	
Administrative support, clerical	5.4%	35.4%	35.3%	23.9%	
Private household	27.8%	27.8%	27.8%	11.1%	
Other service	16.9%	38.5%	32.4%	12.2%	
Farming, forestry, fishing	32.1%	37.8%	18.0%	12.1%	
Precision production, craft, repair	16.2%	47.2%	29.9%	6.7%	
Machine operators, assemblers, inspectors	24.3%	48.8%	22.6%	4.2%	
Transportation, material moving	20.6%	49.7%	23.7%	6.0%	
Handlers, equip cleaners, helpers, laborers	26.2%	50.1%	18.6%	5.1%	

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Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Income, Benefits, Wealth and Expenditures					
Median Income of Persons (1993)					Bureau of the Census. *Current Population Reports,* P60-188.
Total					
Males	$14,550	$21,782	$26,323	$41,649	
Females	$7,187	$11,089	$14,489	$25,246	
Year-Round, Full-Time Workers					
Male	$21,752	$27,370	$32,077	$47,740	
Female	$15,386	$19,963	$23,056	$34,307	
Total Money Income of Families (1993)					Bureau of the Census. *Current Population Reports,* P60-188.
Median	$22,224	$33,674	$40,736	$64,941	
Mean	$28,013	$39,242	$46,526	$80,098	
Spending by Consumer Units (1992)					Bureau of Labor Statistics. *1992 Consumer Expenditures Survey.*
Consumer Units (000)	24,191	29,622	23,499	22,706	
Average Income After Taxes	$17,741	$28,115	$30,639	$48,246	
Average Total Spending	$18,240	$26,924	$31,221	44,237	
Food	$3,231	$4,129	$4,353	$5,340	
Food at Home	$2,403	$2,669	$2,509	$2,950	
Food Away from Home	$828	$1,460	$1,844	$2,391	
Housing	$5,920	$8,340	$9,751	$14,393	
Shelter	$3,159	$4,549	$5,678	$8,658	
Utilities/Public Services/Fuels	$1,693	$2,010	$1,927	$2,318	
Household Operations	$201	$354	$462	$990	
Housekeeping Supplies	$305	$400	$448	$574	
Furnishings/Equipment	$561	$1,027	$1,236	$1,852	
Apparel and Services	$922	$1,397	$1,877	$2,705	
Men's and Boys'	$220	$344	$520	$736	
Women's and Girls'	$341	$564	$743	$1,082	
Children Under 2	$62	$83	$76	$87	
Footwear	$177	$208	$229	$311	
Other Products/Services	$122	$198	$309	$488	
Transportation	$3,207	$5,188	$5,739	$6,901	
Vehicle Purchase (net outlay)	$1,271	$2,269	$2,494	$2,745	
Gasoline and Motor Oil	$749	$1,016	$1,027	$1,101	
Other Vehicle Expenses	$1,052	$1,694	$1,912	$2,507	
Public Transportation	$135	$209	$306	$547	
Health Care	$1,515	$1,521	$1,516	$2,305	
Health Insurance	$689	$733	$650	$833	
Medical Services	$393	$422	$533	$801	
Drugs and Medical Supplies	$432	$346	$333	$402	
Entertainment	$680	$1,338	$1,670	$2,398	
Personal Care	$237	$361	$433	$515	
Reading	$76	$138	$169	$276	
Education	$119	$215	$579	$868	
Alcohol	$149	$252	$366	$441	
Tobacco and Smoking Supplies	$306	$360	$241	$165	
Miscellaneous	$405	$684	$853	$1,155	
Cash Contributions	$393	$634	$905	$2,039	
Personal Insurance/Pensions	$1,081	$2,367	$2,770	$5,006	

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Money Income of Families (1992) (Percent Distribution within Quintile)					Bureau of the Census. *Current Population Reports*, P60-184.
Lowest Fifth	41.3%	19.1%	13.5%	4.2%	
Second Fifth	29.9%	23.3%	17.9%	8.4%	
Third Fifth	16.0%	24.2%	23.4%	14.7%	
Fourth Fifth	8.7%	21.1%	24.9%	25.3%	
Highest Fifth	4.0%	12.2%	20.4%	47.4%	
Top 5 Percent	0.6%	1.6%	3.6%	15.7%	
Consumer Comfort Index (October 12, 1997) (Range: -100 to +100)	-29	-1	+26		ABC News/Money Poll. At: www.abcnews.com
Health Insurance Coverage, 25 Years and Over (1995)					Bureau of the Census. *Current Population Reports*, P60-195.
All persons	75.7%	82.3%	85.2%	91.8%	
Poor persons	64.6%	62.0%	64.6%	65.5%	
Health Insurance Coverage (1987-89)					Bureau of the Census. *Current Population Reports*, P70-29.
Government or Private					
For Entire Period	72.8%	74.9%		85.5%	
For Part of the Period	21.0%	21.8%		12.8%	
No Coverage	6.2%	3.3%		1.5%	
Private for Entire Period	48.1%	68.4%		82.6%	
Household Wealth (1991)					Bureau of the Census. *Household Wealth and Asset Ownership: 1991*, Current Population Reports, P70-34.
Median Net Worth	$23,586	$33,254	$31,081	$72,373	
Households Owning Asset Types:					
Interest Earning Assets in Institutions	54.8%	72.1%	78.3%	89.1%	
Other Interest Earning Assets	3.5%	6.1%	8.1%	19.9%	
Regular Checking Accounts	37.0%	47.3%	51.2%	48.6%	
Stocks, Mutual Fund Shares	7.9%	16.7%	22.6%	38.2%	
Own Business or Profession	6.5%	10.9%	12.8%	17.3%	
Motor Vehicles	73.3%	88.2%	90.7%	93.3%	
Own Home	59.5%	65.9%	62.6%	70.7%	
Rental Property	6.2%	7.6%	8.7%	14.5%	
Other Real Estate	7.2%	9.5%	11.5%	15.3%	
Mortgages	1.4%	1.7%	1.9%	3.3%	
U.S. Savings Bonds	8.2%	17.1%	22.3%	25.7%	
IRA/KEOGH Accounts	9.3%	19.2%	22.7%	42.8%	
Other Assets	1.1%	1.7%	2.7%	6.2%	
Median Value Assets for Asset Owners:					
Interest Earning Assets in Institutions	$3,907	$2,860	$2,716	$5,322	
Other Interest Earning Assets	$12,776	$14,773	$17,921	$18,179	
Regular Checking Accounts	$394	$422	$554	$800	
Stocks, Mutual Fund Shares	$8,154	$5,044	$4,151	$7,347	
Equity in Business or Profession	$11,854	$13,239	$6,490	$9,057	
Equity in Motor Vehicles	$3,340	$5,037	$5,260	$7,084	
Equity in Own Home	$39,141	$41,334	$40,772	$55,310	
Rental Property Equity	$17,644	$30,344	$32,581	$44,892	
Other Real Estate Equity	$18,885	$21,335	$25,221	$27,342	
U.S. Savings Bonds	$555	$713	$655	$819	
IRA/KEOGH Accounts	$11,233	$10,338	$10,843	$12,971	
Other Assets	$25,410	$17,031	$15,513	$22,548	

Correlate	**Educational Attainment**				**Source**
	Less Than HSG	**High School Grad[a]**	**Some College[b]**	**Bachelor's Degree or More[c]**	
Attitude Toward Financial Risk (1983)					Federal Reserve System. *1983 Survey of Consumer Finances.*
Percent Willing to Take Financial Risk	34%	54%	63%	78%	
Poverty, Welfare, and Dependency					
Families Below Poverty Level (1996)					Bureau of the Census. *Current Population Reports*, P60-198.
Total	24.4%	10.2%	7.3%	2.4%	
White	20.7%	7.7%	5.7%	2.0%	
Black	39.9%	25.1%	16.2%	4.6%	
Hispanic	37.5%	18.4%	13.4%	6.2%	
Participation in Government Assistance Programs (1988)					Bureau of the Census. *Current Population Reports*, P70-31.
Average Monthly Participation					
Total	20.5%	7.4%	2.8%		
AFDC, Cash Assistance	5.0%	2.1%	0.6%		
Supplemental Security Income	6.0%	1.3%	0.5%		
Food Stamps	11.6%	3.8%	1.0%		
Housing Assistance	6.7%	2.9%	1.3%		
Medicaid	13.1%	4.2%	1.4%		
Ever Participated in Assistance Programs					
Total	24.3%	10.2%	4.6%		
AFDC, Cash Assistance	6.6%	3.2%	1.0%		
Supplemental Security Income	6.3%	1.4%	0.5%		
Food Stamps	15.0%	5.8%	2.0%		
Housing Assistance	15.7%	5.6%	2.1%		
Medicaid	8.1%	4.0%	1.8%		
Mothers Who Receive AFDC and/or Food Stamp Benefits (1993) (% Distribution)					Bureau of the Census. *Statistical Brief*, SB/95-2 and SB/95-22.
AFDC Mothers	44%	38%	19%		
Food Stamp Mothers	41%	40%	19%		
Health and Nutrition					
Life Expectancy (1960) (Years of Life Remaining at Age 25					Kitagwa and Hauser. *Differential Mortality in the United States*. 1973.
White Males	45.6 yrs	46.0 yrs	47.1 yrs		
White Females	53.4 yrs	52.2 yrs	56.4 yrs		
Women's Health Practices (1990)					National Center for Health Statistics. *Health Promotion and Disease Prevention, United States 1990, Vital and Health Statistics.*
Age 18 Years and Over					
Had Professional Breast Exam	43.0%	52.2%	59.7%		
Knew How to do Breast Self-Exam	76.0%	89.7%	92.8%		
Did Breast Self-Exam Monthly	43.9%	43.6%	42.2%		
Had a Pap Smear	37.9%	49.6%	57.2%		
Age 35 Years and Over					
Ever Had a Mammogram	44.9%	59.0%	65.5%		
Had Mammogram in Past 3 Years	37.4%	51.8%	58.5%		

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Women's Use of Mammography, over 40 Years of Age (1994)	48.2%	61.0%	69.7%		National Center for Health Statistics. *Health, United States, 1996-97 and Injury Chartbook.* July 1997.
Personal Health Practices (1990)					National Center for Health Statistics. *Health Promotion and Disease Prevention, United States 1990, Vital and Health Statistics.*
Eats Breakfast Almost Every Day	58.6%	52.6%	58.8%		
Rarely Snacks	26.9%	24.0%	26.4%		
Exercised/Played Sports Regularly	25.9%	37.0%	52.1%		
Had Two or More Drinks on Any Day	5.1%	5.9%	5.4%		
Current Smoker	31.8%	29.6%	18.3%		
20%/More Above Desirable Weight	32.7%	28.6%	23.8%		
Mothers Who Smoked Cigarettes During Pregnancy (1996)	31.1%	18.0%	10.4%	2.6%	National Center for Health Statistics. *Health, United States, 1998.* 1998.
Current Cigarette Smoking by Persons 25 Years of Age and Over (1995)					National Center for Health Statistics. *Health, United States, 1999.* 1998.
All persons	35.7%	29.0%	22.9%	13.6%	
Males	39.7%	32.6%	24.0%	13.9%	
White	38.8%	32.7%	23.6%	13.4%	
Black	41.4%	36.4%	26.4%	16.9%	
Females	32.1%	26.3%	22.0%	13.3%	
White	33.1%	26.7%	22.5%	13.5%	
Black	31.6%	27.9%	21.0%	18.0%	
Customers for Vitamin Supplements (1992)	34%	39%	41%	47%	Louis Harris & Associates, for *Prevention* magazine.
Dental Visit within Past Year, Age 25 and Over (1993)					National Center for Health Statistics. *Health, United States, 1996-97 and Injury Chartbook.* July 1997.
All	38.0%	58.7%	73.8%		
White	41.2%	60.4%	75.8%		
Black	33.1%	48.2%	61.3%		
Hispanic	33.0%	54.6%	61.8%		
Felt A Lot or Moderate Stress in Last 2 Weeks (1993)					National Center for Health Statistics. *National Health Interview Surveys.*
1993	43%	55%	62%	64%	
1990	43%	56%	65%	67%	
1985	39%	50%	60%	65%	

	Educational Attainment				
Correlate	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	Source
Sex (1998)					*The Journal of the American Medical Association*, 1998.
Lack of interest in sex					
Men	19%	12%	16%	14%	
Women	42%	33%	30%	24%	
Can't achieve orgasm					
Men	11%	7%	8%	7%	
Women	34%	29%	24%	18%	
Erectile dysfunction, men	13%	9%	10%	10%	
Pain during sex, women	18%	17%	16%	10%	
Climax too early, men	38%	35%	26%	27%	
Low-Birthweight Live Births among Mothers 20 Years of Age and Over (1996)	8.3%	7.7%	6.2%		National Center for Health Statistics. *Health, United States, 1998.* 1998.
White	7.1%	6.6%	5.5%		
Black	15.5%	13.2%	11.4%		
American Indian/Alaskan Native	7.7%	6.0%	6.0%		
Asian or Pacific Islander	7.1%	7.0%	6.8%		
Hispanic	5.8%	6.2%	6.0%		
Infant Mortality for Mothers 20 Years of Age and Over (1989-91) (Infant death rates per 1000 Live Births)	12.0	9.1	6.5		National Center for Health Statistics. *Health, United States, 1996-97 and Injury Chartbook.* July 1997.
White	10.1	7.4	5.5		
Black	19.1	16.2	13.6		
American Indian/Alaskan Native	13.8	12.2	8.2		
Asian/Pacific Islander	7.7	7.6	5.1		
Hispanic	7.9	7.0	5.8		
Breastfeeding by Mothers 15-44 Years of Age (1993-94)					National Center for Health Statistics. *Health, United States, 1996-97 and Injury Chartbook.* July 1997.
Percent of babies breastfed	43.0%	51.2%	65.9%	80.6%	
Babies breastfed 3 months or more (at least 3 months old)	44.5%	49.7%	60.2%	68.1%	
Trends in Awareness of a Link between Sodium Intakes and Hypertension (1978-90)					Food and Drug Administration, Consumer Studies Branch. *Health and Diet Survey.*
1978	10%	13%	19%		
1982	34	39	48		
1986	37	43	53		
1988	36	47	57		
1990	27	39	51		
Trends in Awareness of a Link between Fiber Intakes and Cancer (1978-90)					Food and Drug Administration, Consumer Studies Branch. *Health and Diet Survey.*
1978	1%	3%	8%		
1983	1	5	15		
1986	18	27	41		
1988	15	21	36		
1990	9	14	30		

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Foods Adults Believe They Should Eat or Drink More of to Help Prevent Cancer (1987)					National Institutes of Health, National Cancer Institute. *National Health Interview Survey Cancer Risk Factors Supplement.* 1987.
Vegetables	40.7%	43.4%	48.0%		
Whole grains and fiber	12.8	23.3	37.6		
Fruit	19.6	23.6	27.7		
Lower fat meals	9.1	10.0	11.2		
Foods Adults Believe They Should Eat or Drink Less of to Help Prevent Cancer (1987).					
Higher fat meals	22.4%	26.4%	31.2%		
Fats	21.4	26.0	31.6		
Alcohol	12.4	11.8	13.0		
Sweets and snacks	8.6	10.3	11.6		
Additives	4.6	8.4	11.4		
Wearing Seatbelts While Driving Intoxicated (1990)					American Journal of Public Health.
Below Legal Level of Intoxication	39%	41%	51%	66%	
Above Legal Level of Intoxication	15%	20%	31%	78%	
Death Rates for Persons 25-64 Years of Age (1996)(Deaths per 100,000 resident population)					National Center for Health Statistics. *Health, United States, 1998.* 1998.
Both sexes	515.1	426.1	218.1		
Males	670.5	582.1	273.2		
Females	353.4	294.7	158.8		
Personal Life					
Education Participation of Population 17 Years and Over During Previous 12 Months (1994-95)					National Center for Education Statistics. *1995 Household Education Survey.*
Participation Rate	15.7%	30.7%	49.7%	58.2%	
Reasons for Taking Course:					
Personal/Social	47%	44%	44%	43%	
Advance on the Job	25%	49%	52%	65%	
Train for a New Job	9%	10%	14%	9%	
Complete Degree or Diploma	15%	6%	12%	9%	
Choose Among Three or Fewer Restaurant Chains When Eating Out (1992)	50%	56%	60%	50%	Roper Organization

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Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Employer Involvement in Adult Education (1991)					National Center for Education Statistics. *Participation in Adult Education*, unpublished data.
Any employer involvement	35%	62%	76%	71%	
Given at place of work	17%	31%	47%	34%	
Employer paid some portion	21%	50%	66%	57%	
Employer provided course	19%	36%	51%	44%	
Employer required course	21%	31%	39%	30%	
Employer provided time off	19%	45%	63%	56%	
Number of adult education courses taken in last year (Percent distribution)					
One	72%	47%	32%	33%	
Two or three	17%	32%	40%	39%	
Four or more	8%	18%	25%	26%	
Multimedia Audiences (1998)					Mediamark Research, Inc. *Multimedia Audiences.*
Television Viewing	93.1%	92.7%	91.8%	89.6%	
Television Prime Time Viewing	76.4%	78.8%	77.5%	75.4%	
Cable Viewing	50.8%	68.9%	71.5%	71.8%	
Radio Listening	72.2%	82.2%	87.9%	88.8%	
Newspaper Reading	64.8%	80.7%	85.8%	90.9%	
Internet Access	3.6%	10.8%	28.5%	48.7%	
Internet Access and Usage (1998)					Mediamark Research, Inc. *CyberStats, Spring 98.*
Population distribution	21.7%		26.4%	51.9%	
Any Online/Internet usage	19.2%		33.9%	46.9%	
Have Internet access:					
Home or work	23.7%		34.5%	41.8%	
Home only	21.9%		32.3%	45.8%	
Work only	16.7%		28.6%	54.7%	
Used any online service in last 30 days	19.4%		34.7%	45.9%	
Home or work	19.1%		33.6%	47.4%	
Home only	18.8%		31.8%	49.4%	
Work only	13.0%		27.0%	60.0%	
Attendance at Various Arts Activities at Least Once in Prior 12 Months (1992)					National Endowment for the Arts. *Arts Participation in America, 1982 to 1992.*
Jazz Performance	2%	6%	14%	20%	
Classical Music Performance	3%	7%	14%	23%	
Opera	1%	1%	3%	6%	
Musical Play	5%	12%	21%	30%	
Non-musical Play	4%	8%	16%	23%	
Ballet	1%	2%	6%	9%	
Art Museums	7%	16%	35%	46%	
Historic Park	15%	26%	43%	52%	
Movies	35%	54%	21%	77%	
Sports Events	19%	33%	45%	51%	
Amusement Park	35%	51%	59%	58%	
Participation in Leisure Activities at Least Once in Prior 12 Months (1992)					National Endowment for the Arts. *Arts Participation in America, 1982 to 1992.*
Exercise Program	39%	55%	71%	75%	
Playing Sports	18%	34%	49%	55%	
Camping, Hiking or Canoeing	21%	31%	42%	42%	
Home Improvement/Repair	34%	47%	53%	52%	
Reading Literature	32%	49%	65%	71%	

	Educational Attainment				
Correlate	**Less Than HSG**	**High School Grad[a]**	**Some College[b]**	**Bachelor's Degree or More[c]**	**Source**
Estimated Annual Occasions of Sexual Activity Adjusted for Age, Race and Marital Status (1989-97)	59	58	62	56 50	*American Demographics.* February 1998.
Participation in Various Arts Activities at Least Once in Prior 12 Months (1992)					National Endowment for the Arts. *Arts Participation in America, 1982 to 1992.*
Playing Classical Music	1%	2%	6%	8%	
Modern Dancing	4%	8%	10%	9%	
Pottery Work	5%	8%	12%	9%	
Needle-work	24%	25%	26%	24%	
Photography	4%	9%	15%	18%	
Painting	3%	9%	13%	12%	
Creative Writing	2%	4%	11%	14%	
Buying Art Work	8%	15%	27%	39%	
Fishing, Hunting and Wildlife-Associated Recreation (Age 16 and over) (1991)					Bureau of the Census and Fish and Wildlife Service. *1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.*
Sportsmen (fished or hunted)	18.1%	20.9%	23.5%	21.7%	
Fished only	11.7%	12.8%	15.6%	15.2%	
Hunted only	2.3%	2.5%	2.6%	1.8%	
Fished and hunted	4.2%	5.6%	5.3%	4.7%	
Fishing, all	15.9%	18.4%	21.0%	19.9%	
Freshwater	14.4%	16.2%	18.4%	16.4%	
Except Great Lakes	14.0%	15.8%	17.7%	16.0%	
Great Lakes	1.0%	1.3%	1.7%	1.3%	
Saltwater	2.9%	4.2%	5.5%	6.4%	
Hunting, all	6.5%	8.1%	7.9%	6.5%	
Big game	4.9%	6.5%	5.9%	4.4%	
Small game	3.6%	4.3%	4.3%	3.6%	
Migratory bird	0.9%	1.4%	2.0%	2.1%	
Other animals	0.6%	0.8%	0.8%	0.6%	
Nonresidential activities	8.1%	13.3%	19.7%	23.9%	
Observe	7.6%	12.8%	19.0%	23.0%	
Photograph	3.0%	5.7%	9.8%	12.8%	
Feed	4.0%	6.1%	9.1%	9.5%	
Residential activities	30.0%	37.0%	42.3%	47.5%	
Observe	20.1%	26.9%	31.5%	37.6%	
Photograph	4.0%	7.8%	11.4%	13.3%	
Feed wild birds	26.2%	32.1%	36.2%	39.0%	
Music Preferences (1992)					National Endowment for the Arts.
Country/Western	53.5%	57%	50%	44%	
Mood/Easy Listening	26.5%	49%	56%	58%	
Rock	19.5%	42%	54%	53.5%	
Blues/Rhythm & Blues	20%	36%	50%	54.5%	
Big Band	21.5%	32%	37%	48%	
Jazz	12.5%	28%	42%	52%	
Classical	14%	25%	39%	58%	
Show Tunes/Operetta/Musicals	9.5%	22%	33%	45.5%	
Contemporary Folk	11%	20%	25%	34%	
Opera	5.5%	9%	14%	21%	

Correlate	Educational Attainment Less Than HSG	 High School Grad[a]	 Some College[b]	 Bachelor's Degree or More[c]	Source
Book Purchasing (1992) (% Distribution)					Book Industry Study Group. *1991-92 Consumer Research Study on Book Purchasing.*
Total	8.2%	52.4%	39.4%		
Mass Market (pocket size, mass merch)	11.6%	60.3%	28.1%		
Trade (all other paperbound books)	5.0%	44.2%	50.8%		
Hardcover	6.2%	49.4%	44.4%		
Gun Ownership (1993)					Bureau of Justice Statistics. *Sourcebook of Criminal Justice Statistics.*
Total	47%	46%	38%		
Pistol	18%	25%	24%		
Shotgun	30%	32%	22%		
Rifle	27%	27%	20%		
Consumer Purchases of Sporting Goods (1996) (% Distribution)					National Sporting Goods Association. *The Sporting Goods Market in 1997.*
Aerobic Shoes	5%	21%	38%	36%	
Gym Shoes/Sneakers	7%	28%	37%	28%	
Jogging/Running Shoes	4%	14%	36%	47%	
Walking Shoes	7%	26%	35%	32%	
Fishing Tackle	8%	30%	38%	24%	
Camping Equipment	6%	19%	37%	38%	
Exercise Equipment	5%	22%	36%	37%	
Hunting Equipment	8%	26%	39%	27%	
Team Sports Equipment	5%	20%	38%	37%	
Golf Equipment	2%	15%	30%	53%	
Family Life					
Women Who Have Had a Child in the Last Year Who Were Unmarried (1994)	45.6%	30.3%	19.0%	6.1%	Bureau of the Census. *Current Population Reports*, P20-482.
Women Who Have Had a Child in the Last Year (1994) (births per 1000)					Bureau of the Census. *Current Population Reports*, P20-482.
Women 15 to 44 Years Old					
Total Births per 1000 Women	67.3	70.3	56.2	70.3	
First Births per 1000 Women	28.3	28.1	24.9	31.4	
Women 15 to 29 Years Old					
Total Births per 1000 Women	76.4	116.7	77.0	65.6	
First Births per 1000 Women	38.0	60.0	45.9	40.8	
Women 30 to 44 Years Old					
Total Births per 1000 Women	45.5	39.3	38.8	73.1	
First Births per 1000 Women	5.2	6.9	7.1	25.8	
Lifetime Births Expected by Women Ages 18 to 34 Years (1992)					Bureau of the Census. *Current Population Reports*, P20-470.
Rate per 1000 Women					
Births to date	1776	1325	887	644	
Future births expected	616	718	1171	1389	
Lifetime births expected	2393	2043	2058	2033	
Percentage expecting:					
No lifetime births	7.6%	9.0%	9.7%	10.6%	
No future births	63.8%	57.9%	40.2%	30.1%	

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Women Who Have Had a Child in the Last Year and Their Percent in the Labor Force (1994)	33.5%	48.1%	63.3%	69.7%	Bureau of the Census. *Current Population Reports*, P20-482.
Birthing Center Utilization (1985-87) (Percent Distribution)					*New England Journal of Medicine*, December 28, 1989.
Births at Birth Centers	12.4%	32.3%	23.5%	31.8%	
All Births	15.5%	43.7%	22.1%	18.7%	
Living Arrangements of Children Under 18 Years by Parental Educational Attainment (1993)(Percent Distribution)					Bureau of the Census. Unpublished data.
All Races	18.0%	34.6%	25.1%	22.3%	
Living with Both Parents	13.9%	33.1%	25.5%	27.4%	
Living with Mother Only	29.1%	38.3%	24.5%	8.2%	
Living with Father Only	25.4%	40.1%	20.6%	13.9%	
White	16.6%	33.7%	25.6%	24.2%	
Living with Both Parents	13.6%	32.9%	25.9%	27.9%	
Living with Mother Only	27.8%	35.8%	26.4%	10.0%	
Living with Father Only	25.4%	39.8%	21.2%	13.8%	
Black	25.1%	42.2%	23.6%	9.1%	
Living with Both Parents	16.2%	41.0%	27.9%	17.3%	
Living with Mother Only	30.9%	43.1%	21.0%	5.0%	
Living with Father Only	26.1%	41.9%	18.9%	12.4%	
Hispanic	51.9%	26.6%	15.1%	6.4%	
Living with Both Parents	50.8%	25.6%	15.9%	7.7%	
Living with Mother Only	54.1%	29.4%	13.2%	3.4%	
Living with Father Only	53.7%	23.3%	15.9%	7.1%	
Primary Child Care Arrangements Used by Employed Mothers for Preschool Children (1993) (Percent Distribution by Mother's Education)					Bureau of the Census. *Current Population Reports*, P70-53.
Care in Child's Home	41.6%	31.1%	28.6%	28.2%	
Care in Another Home	31.4%	35.6%	30.4%	29.1%	
Day/Group Care Center	11.0%	16.9%	19.6%	22.0%	
Nursery/Pre-school	9.1%	9.7%	12.5%	14.0%	
Mother Cares for Child	5.8%	5.7%	7.6%	5.5%	
Other Arrangements	0.8%	1.1%	1.3%	1.2%	

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	Educational Attainment				
Correlate	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	Source
Married Fathers Caring for Their Children (1993)					*National Survey of Families and Households.*
3 Hours Per Day Caring for Preschooler	36%		22%		
Play with Children Almost Every Day					
Oldest Child Younger than 5	77%		79%		
Oldest Child 5 to 18	18%		16%		
Help Children Learn Almost Every Day					
Read to Children Under 5	17%		36%		
Help with Homework Oldest 5 to 18	45%		61%		
Praise Children Very Often					
Oldest Child Younger than 5	77%		85%		
Oldest Child 5 to 18	46%		61%		
Yell at the Children Sometimes or Often					
Oldest Child Younger than 5	49%		47%		
Oldest Child 5 to 18	58%		57%		
Child Support Payments Agreed to or Awarded All Custodial Parents (1991)					Bureau of the Census. *Current Population Reports,* P60-187.
Child Support Agreed to or Awarded	32.7%	55.7%	63.5%	66.5%	
Supposed to Receive Child Support	84.8%	87.5%	86.6%	81.6%	
Received Payments in 1991	68.5%	76.2%	72.9%	84.3%	
Received Full Payments	65.5%	66.7%	70.9%	71.1%	
Received Partial Payments	34.3%	33.3%	29.1%	28.9%	
Did Not Receive Payments	31.6%	23.8%	27.1%	15.7%	
Mean Money Income and Child Support Received by Custodial Parents					
Mean Total Money Income	$8,919	$15,558	$21,311	$34,397	
Total Mean Income from Child Support	$1,720	$2,553	$3,242	$4,666	
Absentee Fathers Visits to Child (1993)					*National Survey of Families and Households.*
None	21.7%		20.0%		
One to Several Times per Year	23.2%		32.2%		
One to Several Times per Month	24.2%		16.5%		
One or More Times per Week	27.3%		27.2%		
Performance of Children in School					
Average Science Scores on the National Assessment of Educational Progress (1994)					National Center for Education Statistics. *NAEP 1994 Trends in Academic Progress.*
Age 9	211	225	239	239	
Age 13	234	247	260	269	
Age 17	256	279	295	311	
Average Mathematics Scores on the National Assessment of Educational Progress (1996)					National Center for Education Statistics. *NAEP 1996 Mathematics.*
Grade 4	205	219	232	232	
Grade 8	254	261	279	282	
Grade 12	282	294	302	314	
Average Reading Scores on the National Assessment of Educational Progress (1994)					National Center for Education Statistics. *NAEP 1994 Trends in Academic Progress.*
Age 9	189	207	221		
Age 13	237	251	269		
Age 17	268	276	299		

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Average Writing Scores on the National Assessment of Educational Progress (1994)					National Center for Education Statistics. *NAEP 1994 Trends in Academic Progress.*
Grade 4	188	202	212	212	
Grade 8	250	259	270	275	
Grade 12	269	279	286	293	
Civic Life					
Adult Reading Activity (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Read newspaper at least once a week	71%	85%	89%	91%	
Read one or more magazines regularly	66%	86%	89%	94%	
Read any books in past six months	42%	57%	74%	83%	
Sources and Frequency of National News for Adults (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Source of daily national news					
Read national newspaper or magazine almost every day	18%	27%	33%	42%	
Watched national news on TV or listened to national news on radio almost every day	78%	73%	73%	79%	
National news from newspaper/news magazine almost every day	15%	23%	28%	37%	
Adults Correctly Answering Questions Measuring Knowledge about Government (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
What job or political office is now held by Al Gore?	28%	62%	84%	90%	
Does President, Congress, or Supreme Court determine if a law is constitutional?	25%	46%	66%	78%	
Which party has the most members in the U.S. House of Representatives?	41%	52%	77%	83%	
What majority is needed to override a presidential veto?	6%	23%	39%	59%	
Which party is more conservative at the national level?	15%	38%	65%	79%	
What job or political office is now held by Newt Gingrich?	25%	47%	57%	85%	
Does President, Congress, or Supreme Court nominate judges to the federal courts?	18%	34%	42%	68%	
Which party has the most members in U.S. Senate?	37%	62%	77%	88%	
What are the first ten amendments to the U.S. Constitution called?	7%	36%	55%	73%	
Which party is in favor of the larger defense budget?	16%	39%	53%	73%	
Total knowledge score of 3 or more correct	15%	43%	67%	84%	

	Educational Attainment				
Correlate	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	Source
Adults Reporting Community Participation (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Member of an organization	45%	49%	62%	78%	
Attended religious services at least once a month	50%	49%	49%	53%	
Did ongoing community service	19%	33%	44%	52%	
Participated in all three types	13%	21%	28%	34%	
Political Participation (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Contributed money to a candidate, political party, or political cause	7%	10%	16%	25%	
Worked for a candidate, political party, or political cause	3%	5%	4%	10%	
Wrote, telephoned or signed petition about an issue	7%	27%	41%	50%	
Attended a public meeting	13%	24%	31%	40%	
Participated in a protest or boycott	1%	4%	5%	10%	
Voted in a national or state election	51%	68%	80%	91%	
Voted plus one other type	15%	37%	51%	65%	
Political Opinions of Adults (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Politics and government are too complicated to understand	63%	46%	30%	16%	
Own family has no say in what federal government does	60%	49%	40%	25%	
A person should be allowed to make a speech against religion	70%	79%	88%	93%	
A book most people disapprove of should be kept out of a public library	73%	52%	39%	24%	
Opinions about Skills Related to Civic Participation (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Could write a letter to government official that clear states opinion	77%	91%	97%	99%	
Could make a comment or statement at a public meeting	69%	83%	87%	94%	
Actions That Would Improve Public Education a Great Deal (1996)					National Center for Education Statistics. *1996 Household Education Survey: Adult Civic Involvement in the United States.*
Enforcing stricter discipline in school	53%	54%	53%	51%	
Not promoting students until they meet strict academic standards	62%	66%	67%	53%	
Evaluating Teachers according to high performance standards	65%	69%	75%	64%	
Making the school year longer	29%	17%	20%	17%	
Volunteer Work (1993)					Independent Sector survey, 1994.
Doing Volunteer Work	29.9%	40.4%	56.9%	67.2%	
Average Hours Volunteered per Week		3.6 hrs	4.3 hrs	5.0 hrs	

Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Volunteer Work (1989) (% Distribution)	8.3%	18.8%	28.1%	38.4%	Bureau of Labor Statistics. *News*, USDL-90-154.
Churches, Other Religious Organizations	48.4%	41.5%	36.8%	32.9%	
Schools, Educational Organizations	6.6%	12.5%	14.7%	17.4%	
Civic, Political Organizations	10.0%	11.2%	13.3%	16.4%	
Hospitals, Health Organizations	10.0%	11.1%	10.8%	9.7%	
Social, Welfare Organizations	13.1%	8.8%	10.1%	10.1%	
Sport, Recreational Organizations	4.8%	8.2%	8.0%	7.8%	
Other Organizations	7.0%	6.7%	6.3%	5.7%	
Voting and Registration for Citizens in the Presidential Election (1996)					Bureau of the Census. *Current Population Reports*, P20-504.
Registered	54.2%	65.5%	76.1%	85.3%	
Voted	38.8%	51.7%	63.1%	77.0%	
Political Party Identification (1994)					Center for Political Studies, University of Michigan.
Strong Democrat	26%	15%	14%		
Weak Democrat	26%	22%	16%		
Independent Democrat	7%	14%	13%		
Independent	13%	13%	7%		
Independent Republican	7%	10%	13%		
Weak Republican	11%	13%	16%		
Strong Republican	6%	11%	21%		
Apolitical	4%	1%	0%		
Trends in Voting for Congressional Representatives (1994 and 1996)					Voter News Service, in New York Times, 11/7/96.
Democrat					
1994	58%	47%	41%	45%	
1996	65%	55%	50%	43%	
Republican					
1994	42%	53%	59%	55%	
1996	35%	45%	50%	57%	
Mobility (1994) (Percent of Total moved in previous year)					Bureau of the Census. *Current Population Reports*, P20-485.
Live in same house	86.1%	86.4%	84.9%	85.0%	
Moved, live in same county	72.2%	64.9%	61.1%	54.1%	
Moved, different county in same state	52.1%	57.7%	56.4%	50.0%	
Moved, different state in same region	60.6%	55.1%	54.6%	48.9%	
Moved, different state in different region	39.6%	44.9%	45.4%	51.1%	
Reading Current Events (1996)					National Center for Education Statistics. *1996 National Household Education Survey: Adult Civic Involvement in the United States*
Read newspaper at least once a week	71%	85%	89%	91%	
Read one or more magazines regularly	66%	86%	89%	94%	
Percent of U.S. Adults Who Agree that a Book Most People Disapprove of Should be Kept Out of the Public Library (1996)	73%	52%	39%	24%	National Center for Education Statistics.

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Correlate	Educational Attainment				Source
	Less Than HSG	High School Grad[a]	Some College[b]	Bachelor's Degree or More[c]	
Influential Community Leadership (1992) (Percent Distribution)					The Roper Organization.
Influentials	5%	22%	29%	44%	
General Public	20%	37%	23%	19%	
Crime and Punishment					
State Prison Inmates (1991) (Percent Distribution)	41.2%	58.8%			Bureau of Justice Statistics. *Profile of State Prison Inmates, 1991.*
Prisoners Under Sentence of Death (1994) (Percent Distribution)	52.4%	37.4%	10.2%		Bureau of Justice Statistics. *Capital Punishment.*

[a] High school graduates include equivalency certification.

[b] Some college includes those with some college but no degree, and those with associate degrees from occupational and academic programs.

[c] Bachelors degree or more includes bachelor, master, professional and doctoral degrees.

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The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

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An editorial . . .

Refocusing Student Financial Aid:

from Grants to Loans, from Need to Merit, from Poor to Affluent

*The following is the editorial position of **Postsecondary Education OPPORTUNITY** on the extraordinary changes in the federal, state and institutional financial aid systems that are taking place in the United States in the 1990s.*

We have come a long way in student financial aid policy development since Congress passed the Higher Education Act of 1965. It's been an about face, really--a reversal of the direction we set out on in the 1960s and 1970s.

We began with financial aid programs based on solid economic research and demonstrated financial need that were targeted on the poor. But now the big new financial aid programs being created in the 1990s ignore financial need altogether and often deliberately exclude the poor from financial aid eligibility. There is little or no economic research that justifies their enactment. These programs include merit-based scholarships, tax credits and college savings programs. These new programs are often targeted to voters rather than financially needy students.

How did this happen? When did this happen? Why did this happen? And most important, what are the consequences of this reversal in student financial aid policy? What justifies it?

This is a story about the most shameless and unprincipled money-grab by higher education institutions and elected officials in the history of American higher education. The system we chose in 1965 had as its purpose to broaden opportunities for postsecondary education and training by removing financial barriers to educational opportunity. But when real money was put into the financial aid system to achieve these goals, it was perverted to serve the political interests of elected officials and the insatiable financial aspirations of colleges and universities, both public and private. The noble, thoroughly justified and increasingly necessary objectives of financial aid to broaden educational opportunity have been displaced by politicians buying votes and colleges and universities seeking more money, in any form, for any purpose, as long as there is more of it.

The consequences for educational opportunity are clear and devastating: by the mid-1990's the distribution of higher educational attainment across levels of family income was more unequal than it has been at any time in the last 25 years. Whereas higher educational opportunity grew steadily more equal in the 1970s when we were focused on need-based aid, it has grown steadily more unequal in the 1980s and 1990s as we have retreated from our original commitments.

Today in America, the rich are getting much richer and the poor are getting poorer. Income is being redistributed, with *all* of the growth in income shares since 1967 going to the top 5 percent of the income distribution.

This growing inequality divides and destabilizes society, requires ever greater social resources to control those left out (prisons, for example), and mocks our self-image of a America as a land of opportunity.

In the 1960s and 1970s, when financial aid was focused on the poor and the needy, student financial aid was a critical public policy tool to bridge the gap between the rich and the poor. But by retreating from the focus on the poor and the needy, financial aid is becoming an important public policy tool to enrich the rich and impoverish the poor.

We are coming to practice plantation economics where the rich exploit the poor. Its a combination of the worst of unbridled capitalism and social class warfare. The southern politicians who have led this charge--both Republicans and Democrats at both federal and state levels--are quite comfortable with such social policies. Until recently the rest of the country did not make this choice.

We are already the worse for this choice. And its going to get worse unless and until public policy gets refocused on those who need help to get the education they need to become self-supporting, contributing members of society.

How and When Did This Happen?

The reversal in student financial aid policy has occurred decision-by-

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decision, choice-by-choice over the last two decades. It began with the Middle Income Student Assistance Act of 1978. The subsequent changes have occurred throughout the federal, state and institutional financial aid systems since then.

The modern era of student financial aid begins in 1965 with passage of the Higher Education Act. The federal legislation enacted in 1964 and 1965 was termed by President Johnson a War on Poverty in his 1964 State of the Union address. Poverty was viewed as a crippling social and economic evil, and a contradiction in the American "classless" society.

There were three planks to the platform to reduce or eliminate poverty: increase the human capital of the poor through programs of investment in education and health, remove irrelevant barriers to economic opportunity through civil rights, and stimulate the economy to create more jobs for the poor when they were ready to enter the labor market.

The legislation that became law during this period included the Civil Rights Act, Voting Rights Act, Elementary and Secondary Education Act, Economic Opportunities Act, and a modest bill that became the Higher Education Act of 1965. Through the latter was created the Educational Opportunity Grant program, a need-based grant program administered by colleges and universities with incentives to recruit and enroll students from low income family backgrounds. We now call this program the Supplemental Educational Opportunity Grant program.

In addition to financial aid targeted on students from low income families, Congress created supportive services under the TRIO banner to prepare students from low-income, first-generation families for college, to seek out and identify them, and to support them with academic services when they reached college. The five current TRIO programs are Upward Bound, Talent Search, Educational Opportunity Centers, Student Support Services, and McNair Postbaccalaureate Scholars.

In the 1972 Reauthorization process, Congress reaffirmed and greatly expanded its commitment to fostering educational opportunity. It continued to do so by further reducing financial barriers through creation of the Basic Educational Opportunity Grant program, now called the Pell Grant program. Funding soared. When it was fully implemented across four years of undergraduate education, the federal Pell Grant maximum award for the lowest family income students stood at $1400, or enough to cover 72.4 percent of institutional charges at an average cost public 4-year college.

In the mid-1970s, however, families not quite eligible for Pell Grants were asking for inclusion. So Congress passed the Middle Income Student Assistance Act in 1978 and added considerable middle family income eligibility. Students not previously eligible for Pell Grants became so.

But progress was brief when two nasty economic recessions in 1980 and 1981-82 forced a choice back on Congress: either rescind the middle income eligibility enacted in 1978 or cut the Pell Grant maximum award for the poorest students. In what was the beginning of the loss of focus on need-based aid for the poor, Congress chose to cut the Pell Grant maximum award for the poorest students and preserve the middle income eligibility it had just recently enacted. So the Pell Grant maximum award went from $1800 in 1979-80, to $1750 in 1980-81, to $1670 in 1981-82.

By this time federal budget pressures resulted in a gradual but substantial shift in federal financial aid from

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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grants to loans. Because a federally guaranteed student loan only cost the federal government about half of what a grant cost, the growing federal budget deficit constrained grant appropriations and encouraged guaranteed loan program growth.

Unfortunately, the federal policy makers did not bother to ask grant recipients about the substitutability of loans for grants. If they had asked, students from low income family backgrounds would have told them that loans were more accurately described as barriers to higher educational opportunity, while grants were vehicles and incentives to attend college. Loans worked far better for middle-income students than they did for the poor.

In the 1986 reauthorization of the Higher Education Act, Congress again extended middle income Pell Eligibility. It increased the Pell Grant available to the poorest student by $100, and gave Pell Grants of up to $1100 to students from middle income families who had not previously been eligible for Pell Grants.

During this period in the 1980s, the Pell Grant maximum award for the poorest was steadily loosing purchasing power compared to college costs. States had decided around 1979 that they could cut state funding for higher education and divert these funds to other purposes like prisons and medical care. Public institutions were expected--and did--raise tuition charges to students to offset the losses in state funding. Very few states--less than a dozen--took any responsibility for covering the increased tuition charges for their own poor and other financially needy students.

So the Pell Grant maximum award for the lowest family income students (below about what is now about $25,000 per year) covered a steadily declining share of institutional charges after 1979. In public 4-year colleges and universities, the purchasing power of the Pell Grant maximum award declined from 77.4 percent of institutional charges in 1979-80 to a low of 33.4 percent in 1995-96. In private 4-year institutions, the purchasing power of the Pell Grant maximum award declined from 35.9 percent of institutional charges in 1979-80 to 13.3 percent in 1995-96. Since few states chose to make up the difference, students dependent on grants faced choices like more loans, cheaper institutions, part-time attendance and/or more hours working while studying.

In the 1992 reauthorization of the Higher Education Act, Congress chose to remove home equity from the Federal Methodology, the key formula for determining family ability to pay and hence financial need, if any. This provision was aimed at the middle class, and of course the more home equity one had the more one benefitted from this change. It didn't help the poor who are least likely to have any home equity at all.

In 1997 Congress enacted President Clinton's Hope and Lifetime Learning Tax Credits program. At the federal level this was the first program designed to help families pay for college that excluded poor people from eligibility. It had no needs test either, although families with incomes up to $100,000 could qualify. Because these tax credits are not refundable, if one came from a family too poor to pay federal income taxes then one could not receive the tax credit. Students from families with incomes up to $100,000 could qualify for the tax credit--needy or not--but not poor people.

The federal Hope Tax Credit was modeled on the Georgia HOPE Scholarship program, the first financial aid program that deliberately and purposefully excluded poor people from eligibility--thus the origin of the term "plantation economics" of higher education. Georgia's HOPE Scholarship program was created in 1992 to provide a variety of financial incentives for student academic performance. However, from the very beginning, Georgia chose to and still chooses to exclude poor people from eligibility. The program has never had a financial need test for inclusion, only to exclude poor people from eligibility.

While the poor in Georgia were always excluded from eligibility--purposefully and by design--Georgia's governor and legislature saw fit to first raise the family income cap from $60,000 to $100,000, then remove it altogether. So in Georgia the state has decided that students from middle income and rich families, even obscenely wealthy families, are more deserving of free tuition than are the poor with no resources to pay the first dollar of college attendance costs.

There are many other problems with the HOPE Scholarship program, none of which has Georgia chosen to address since the program's inception:

- The funding source for HOPE Scholarships is Georgia's lottery, played disproportionately by the poor in Georgia (and everywhere else), who have been excluded from scholarship eligibility. This is an income transfer from poor to middle income and rich, just like plantation economics.
- Georgia did not invent grade inflation, but it has almost certainly contributed to it with its B-average grade eligibility requirement.
- Georgia has reduced state funding for its modest need-based grant program from $5.3 million in FY1994 to $2.2 million in FY1997, apparently in violation of its own law. During the same period, Georgia increased funding for non-need based aid to undergraduates from $32 to $184

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million.

Georgia's B-average grade requirement for HOPE Scholarship eligibility is representative of all merit-based financial aid programs insofar as who it favors and who it disfavors. In 1996 we reported our study of high school grades reported by college freshmen, from the UCLA survey of American college freshmen. The results of our analysis showed that in every respect, those most likely to get the highest grades in high school were already best represented in higher education and those least likely to get high grades were least well represented in higher education. For example:

- By gender, 77.9 of females reported B or better high school grades, compared to 65.9 percent of males.
- By race/ethnicity, 44.7 percent of Asians reported A- to A+ high school grades, compared to 29.1 percent for whites, 27.9 percent of American Indians, 21.1 percent of Latinos, 20.2 percent of Puerto Ricans and 15.1 percent of blacks.
- The proportion of college freshmen who reported A- or better high school grades increased directly with father's education, from 18.0 percent of those whose father had some high school, to 21.9 percent of the children of high school graduates, to 32.5 percent of children of college graduates, to over 40 percent among children whose fathers had at least some post-baccalaureate education.
- By parental status, 75.5 percent of freshmen who reported two parents living together had B or better high school grades, compared to 65.6 percent of those who lived with only one parent, and 61.4 percent of those who reported one or both parents were dead.
- By parental income, average high school grades increased with income. For example, among freshmen with parental incomes below $6000, 16.9 percent reported A- or better high school grades, compared to about 35 percent of those from families with parental incomes of more than $100,000. The proportion of freshmen reporting B or better high school grades ranged from 60.5 percent of those from parental incomes below $6000 to more than 75 percent of those from families with incomes above $50,000.

In terms of institutional allocations of merit-based grants, our study also indicated that students in some types of institutions were more likely to qualify than were students in other institutions. In highly selective institutions, more than 90 percent of freshmen had B or better high school grades. In contrast, less than 60 percent of freshmen in public and private 2-year colleges and public black colleges reported B or better high school grades. Merit-based scholarships will follow the most talented students to the institutions that tend to be already the best funded.

At the federal level, the proportion of student aid awarded on the basis of financial need increased from 37 percent in 1975-76 to a peak of 86 percent in 1985-86, and has been declining ever since to 61 percent in 1997-98, using data from The College Board's reports on *Trends in Student Aid*. All this is before tax credits and federal savings incentives that are not needs-tested can be added.

At the state level, the proportion of state student aid--mainly grants and scholarships--awarded on the basis of financial need held at very close to 90 percent of all state aid awarded through 1993-94. But since then this proportion has declined steadily to 84 percent by 1996-97. The many new state merit-based aid programs patterned on the Georgia model will carry this decline sharply downward over the next few years. And here too we have not included state tax credits for college, nor state pre-paid tuition and savings programs in our calculations.

We lack data to carefully examine the allocation of institutionally awarded financial aid. We do not know how much is merit-based and how much is need-based. What we do know is that this number has grown rapidly over the last two decades. And we have heard that institutions are using these funds to attract students with the most desirable academic characteristics, those that enhance institutional rankings in the national guidebooks.

On a broad front we are retreating from our commitments of the 1960s, 1970s and part of the 1980s to keep limited financial aid resources focused on students who need them. This retreat is occurring in federal, state and probably institutional financial aid programs. It has come to severely impact higher educational opportunity for those from lowest income backgrounds. The price barriers once torn down are being erected in ways that have their greatest impacts on their college choices, persistence, full-time attendance and completion.

We know that postsecondary educational opportunity is now the key to private and social welfare. We know this at the same time that the rich are getting richer and the poor are getting poorer. And from the mid 1960s through the mid 1980s we acted on those understandings and kept our focus on financial aid for those that had a demonstrated need for such aid.

But big money tests our moral commitments, and at the federal, state and institutional levels we have been quick to sacrifice the public interest for our more narrow political and institutional interests. We have failed those who need our help most. We are the poorer for having made these selfish and shortsighted choices.

Location, location ... . . . location

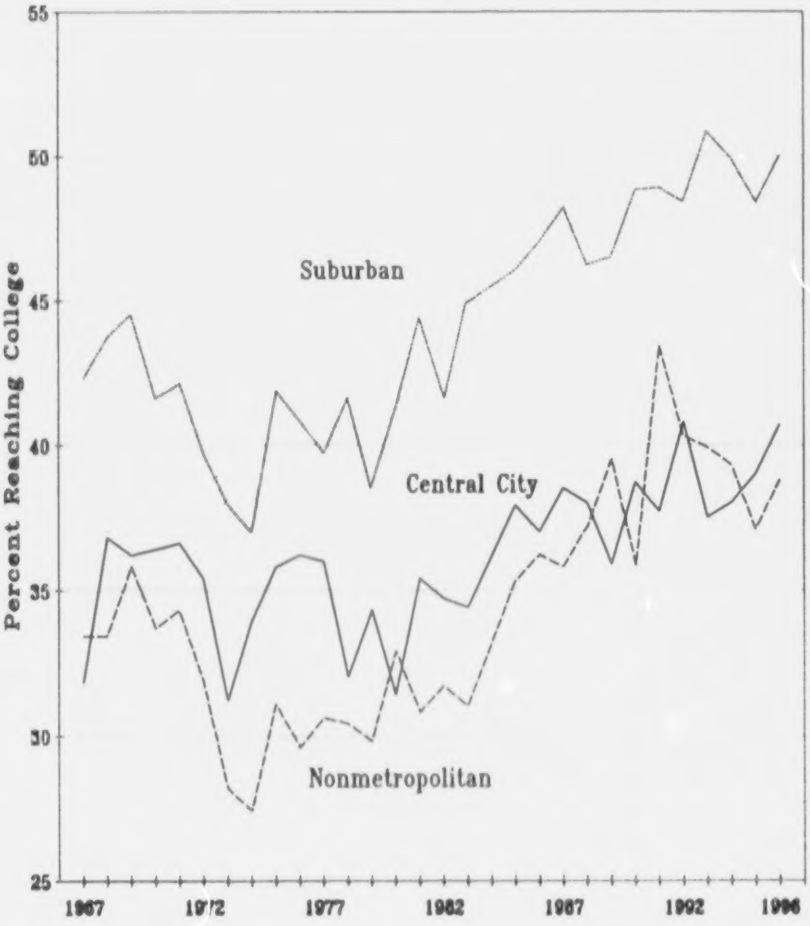
Metropolitan Status and Higher Educational Opportunity

The geography of higher educational opportunity influences students in a variety of ways. Students have locations and so do campuses. The distance that separates them has economic, information, cultural and other dimensions that influence decisions such as access, choice and persistence in higher education.

Here we examine one geographic aspect of higher educational opportunity: metropolitan status. The locations of students are divided into three distinct regions: central city, suburban (metropolitan outside of central cities) and nonmetropolitan. The educational opportunity of people in these regions is measured in terms of high school graduation, college enrollment by age 18 to 19 years, and the product of these two rates which is chance for college by age 18 to 19.

The results of this examination are quite striking. For those from all three areas, chance for college has increased substantially since about 1974. These gains have come about despite declining high school graduation rates in all three regions. These gains in chance for college have occurred only because the rate at which those going on to college immediately after high school has increased at a faster rate than rate of decline of high school graduation.

Chance for College for 18-19 Year Olds
by Metropolitan Status
1967 to 1996



Over the last three decades chance for reaching college has always been greatest for 18 to 19 year olds who live in suburban areas, and by a substantial margin. In 1996 the chance that an 18 to 19 year old would be enrolled in college was 50.1 percent if they came from the suburbs, compared to 40.7 percent for the central city and 38.8 percent from nonmetropolitan areas.

By 1996 about 54 percent of all college students ages 18 and 19 years came from the suburbs. This was up from 51 percent as recently as 1992.

Chance for reaching college in the 18 to 19 age range has always been least for those living in nonmetropolitan areas. Over the last three decades, the chance for college for 18 to 19 year olds from nonmetro regions has averaged 9.9 percent below the rate for those from the suburbs. Over the last three decades this gap has widened, from less than 9 percent in the 1960s and early 1970s, to about 11 percent in the mid 1990s.

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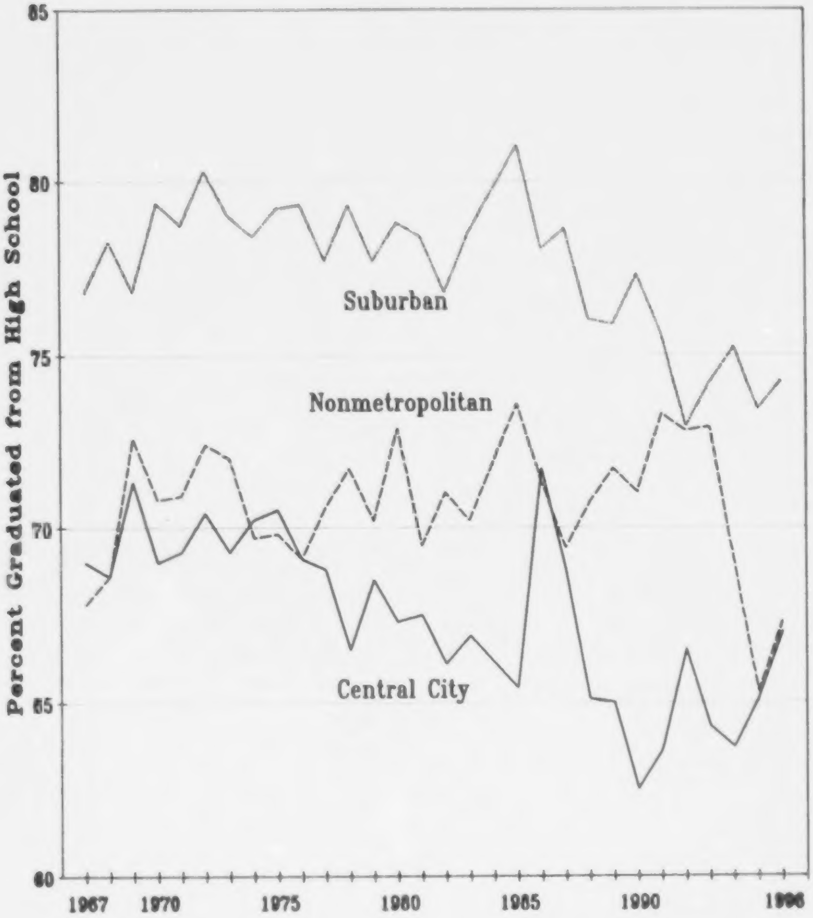
High School Graduation Rates for 18-19 Year Olds
by Metropolitan Status
1967 to 1996



The proportion of all 18 to 19 year old college students that were from nonmetropolitan regions was 18.4 percent in 1996. This was down from 20.6 percent in 1992.

Those from central cities fared somewhere between those from the suburbs and others from nonmetropolitan areas. They have the lowest high school graduation rate, but for those that graduate from high school their college continuation rate immediately after high school is consistently better than for their nonmetropolitan cousins. In 1996 they provided 29.4 percent of the 18 and 19 year olds enrolled in college, compared to 28.1 percent in 1992.

The Data

Definitions. Broadly speaking, the Census Bureau divides regions into metropolitan and nonmetropolitan. Metropolitan is Metropolitan Statistical Areas (MSA). These are defined by the Office of Management and the Budget. MSA's include a large population nucleus together with adjacent communities that have a high degree of social and economic integration with that nucleus. The definition includes the central city and all of its suburbs.

Outside of New England MSAs consist of counties. In New England MSAs are defined by cities and towns. Usually the central city must have a population of at least 50,000, and the metropolitan area must have a population of at least 100,000 (75,000 in New England). Some definitional details differ between the pre-1984 Census and post-1984 OMB definitions of metropolitan regions.

Sources. All data used in this analysis were collected by the Census Bureau in the October Current Population Survey. These data are published in Table 2 of the P20 series of Current Population Reports on school enrollments.

Day, J. C., and Curry, A. E. (1998.) *School Enrollment-Social and Economic Characteristics of Students: October 1996 (Update).* Current Population Reports: P20-500. Washington, DC: Census Bureau.

For the last three years these reports have been available by downloading from the Census Bureau's website at:
http://www.census.gov/population/www/socdemo/school.html
Downloading and printing requires free Adobe Acrobat software which can be downloaded and installed through a link from this website.

Sampling. The Current Population Survey is based on a national sample of about 50,000 households. The household sample means that the high school graduation and college enrollment of 18 and 19 year olds is determined at the location of the household, not the location of the college.

]

High School Graduation

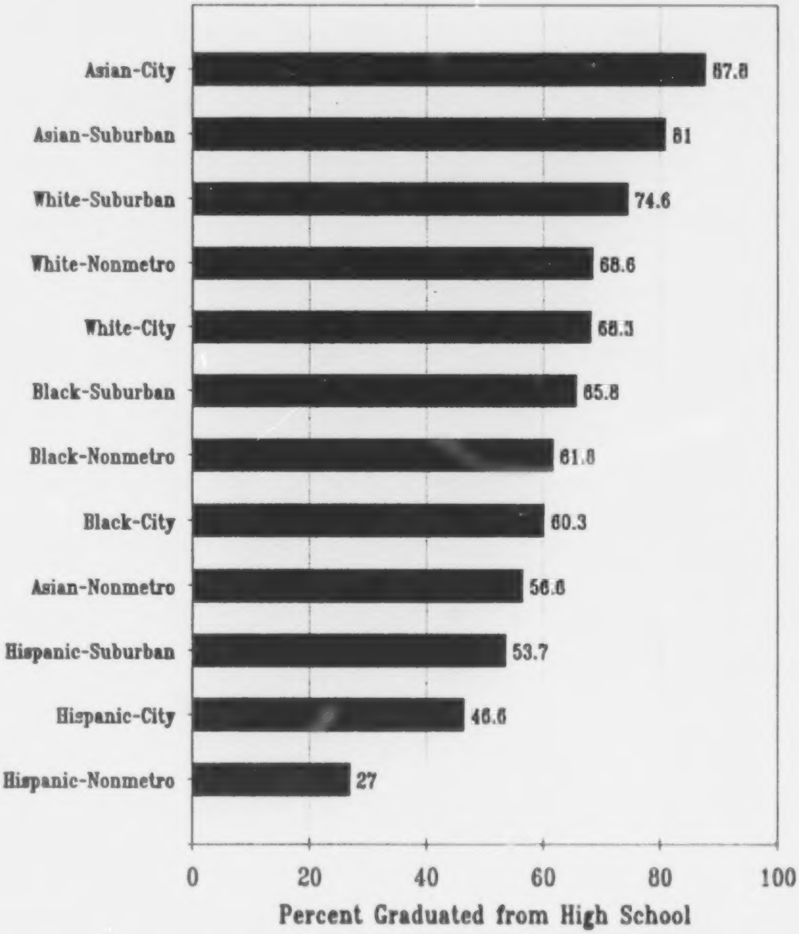
In October of 1996 there were 7,375,000 people ages 18 and 19 in the civilian, noninstitutional population of the United States. Of these, 5,205,000 were high school graduates. This was 70.6 percent of the population.

By metropolitan status, 74.3 percent of the 18 and 19 years olds in the suburbs were high school graduates. This compared to 67.0 percent of those in central cities and 67.3 percent of those in nonmetropolitan areas. In 1996, about 51 percent of the 18-19 year old high school graduates were living in the suburbs, 29 percent in central cities and 20 percent lived in nonmetropolitan areas.

Trends. Over the last three decades, high school graduation rates among 18 and 19 year olds have declined in central cities, suburbs and nonmetropolitan regions, as shown in the chart on page 6.

- The decline in high school graduation rates began earliest in the central cities, after 1975. Between 1975 and 1990, the rate declined from 70.5 to 62.5 percent, and has since partially recovered to 67.0 percent by 1996.
- The high school graduation rate in the suburbs increased gradually between 1967 and 1985, from 76.8 to 81.0 percent. Then between 1985 and 1992 the rate dropped sharply to 72.9 percent. By 1996 it had partially recovered to 74.3 percent.
- In nonmetropolitan regions the high school graduation rate increased from 1967 at 67.8 percent to 1991 when it reached 73.3 percent. It has since dropped to 67.3 percent in 1996.

High School Graduation Rates for 18-19 Year Olds
by Race/Ethnicity and Metropolitan Status
1996

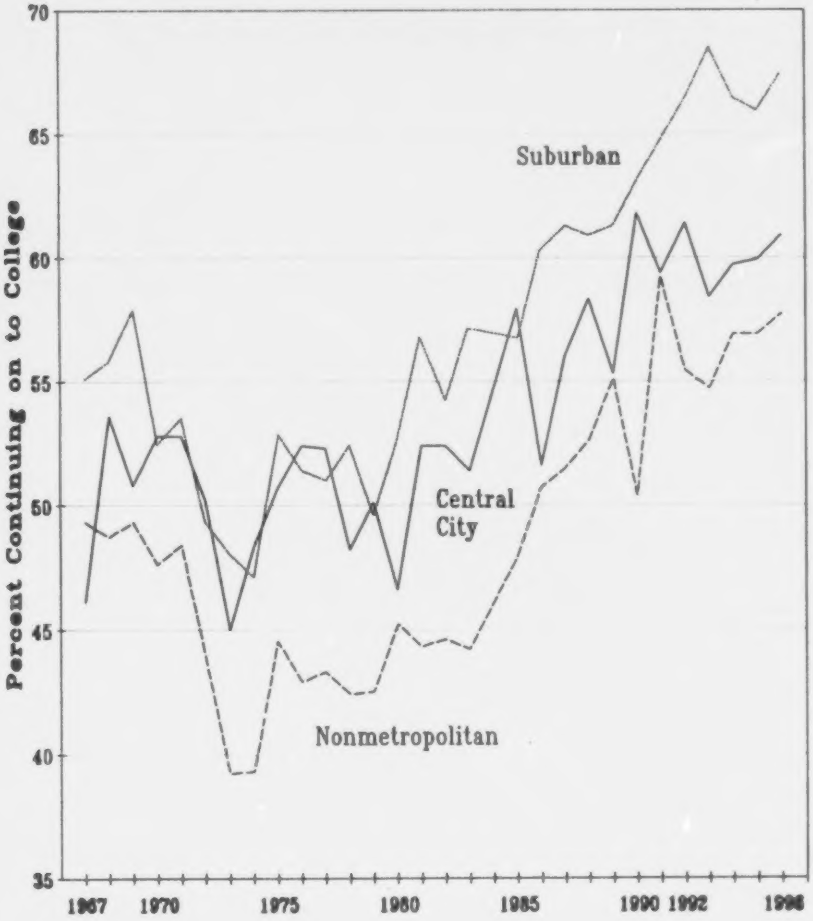


Race/ethnicity. Across racial and ethnic groups of the population of 18-19 year olds, there was wide variation in high school graduation rates. In 1996 these rates ranged from 27.0 percent for Hispanics who lived in nonmetropolitan areas, to 87.8 percent for Asians who lived in central cities. These data are shown in the chart on this page.

Age. In each of the three regions, high school graduation rates increased from the 18-19 year old cohort to the 20-21 year old cohort. Clearly not all students have their high school diplomas (or its GED equivalent) in hand by the time they are age 18. In 1996, for example:

- Among those living in central cities, the high school graduation rate increased from 67.0 for 18-19 year olds, to 81.5 percent for 20-21 year olds, rising further to a peak of 86.5 percent among those 25 to 29 years old.
- Among those living in the suburbs, the high school graduation rate rose from 74.3 percent of 18-19 year olds, to 87.7 percent of 20-21 year olds, rising to a peak of 91.0 percent among those between 35 and 44 years.
- Among those living in nonmetropolitan areas, the high school graduation rate increases

College Continuation Rates for 18-19 Year Old
High School Graduates by Metropolitan Status
1967 to 1996



from 67.3 percent among 18-19 year olds, to 85.6 percent among 20-21 year olds, to a peak of 86.6 percent of those 35 to 44 years.

College Continuation

As fast as high school graduation rates have declined, the rate at which those who do graduate from high school hove gone on to college has gone up even faster.

In 1996, of the 5,205,000 18-19 year old high school graduates in the civilian, noninstitutional population, 3,309,000 were enrolled in college. This was a college continuation rate of 63.6 percent.

By metropolitan status, 67.4 percent of the high school graduates from the suburbs were enrolled in college. This compares to 60.9 percent among those from central cities, and 57.7 percent among those from nonmetropolitan regions. In 1996 about 54 percent of those in college came from the suburbs, 28 percent came from central cities and the remaining 18 percent came from nonmetropolitan regions.

Trends. Since the early 1970s, when the Pell Grant program was enacted, the rate at which high school graduates have continued their educations in college has increased substantially in all three regions.

- In the suburbs, the proportion of 18-19 year old high school graduates who were enrolled in college increased from 47.1 percent in 1974 to a peak of 68.5 percent in 1993. In 1996 the college continuation rate stood at 67.4 percent, 12.3 percent above the 1967 rate.
- In the central cities, the college continuation rate increased from 45.0 percent in 1973 to a peak of 61.8 percent in 1990. The 1996 rate was 60.9 percent, 14.8 percent above the 1967 rate.
- In nonmetropolitan regions, the college continuation rate increased from 39.2 percent in 1973 to a peak of 59.2 percent in 1991. The 1996 rate was 57.7 percent, or up 8.4 percent over the 1967 rate.

Race/ethnicity. Among 18 to 19 year old high school graduates, the college continuation rate varied widely across racial/ethnic groups and by metro status in 1996.

Most interesting were the extremes. Asian high school graduates who lived in the suburbs were enrolled in college at the highest rate, 82.5 percent. But the lowest college continuation rate--43.3 percent--was for Asians who lived in nonmetropolitan regions. These nonmetro Asians also had relatively low high school graduation rates in the 18-19 age range. These data indicate that Asians living in central cities or suburbs are far more successful in the educational system than are Asians living in nonmetropolitan regions.

Generally whites fared well too, regardless of where they lived. College continuation rates for 18-19 year olds in 1996 ranged from 59.7 percent in nonmetro regions to 68.1 percent from the suburbs.

The college continuation rates for black high school graduates differ from other racial/ethnic categories. In 1996 the rates were lowest for blacks from the suburbs--45.2 percent--and highest for black high school graduates from the central cities at 49.4 percent.

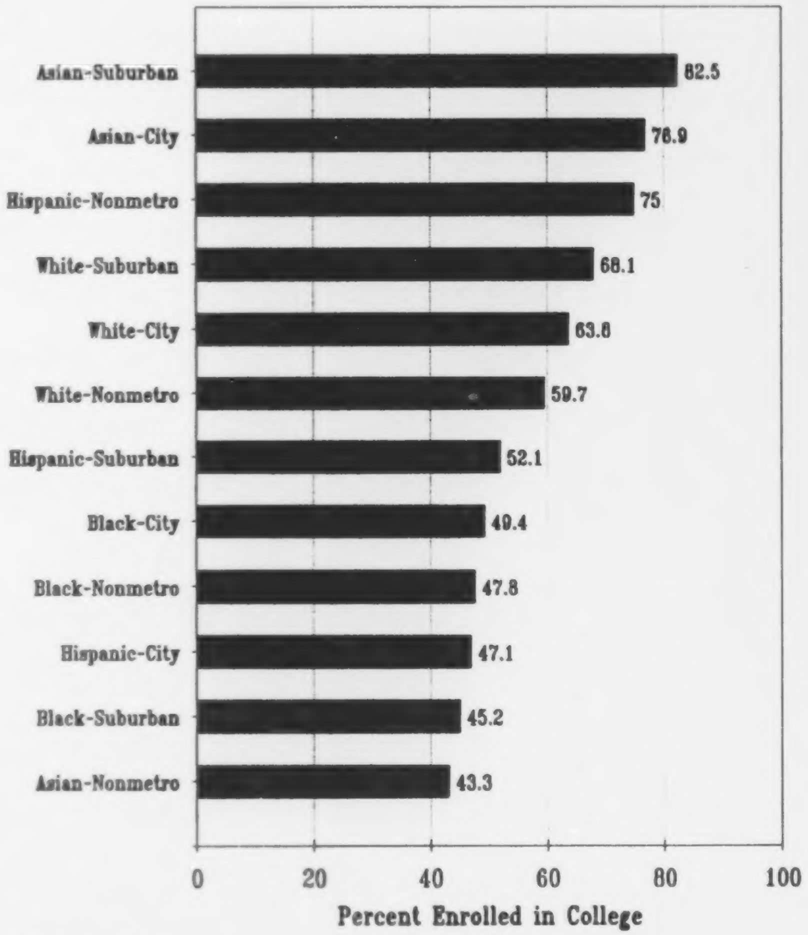
The Hispanic college continuation rates are similarly confusing. In 1996 they ranged from 47.1 percent from the central cities, to 75.0 percent from nonmetro regions. The nonmetro Hispanics had by far the lowest high school graduation rate (page 7), but for those that made it through high school three out of four went on to college.

Age. The college continuation rate is highest among 18-19 year old high school graduates, and declines with age thereafter in central cities, suburbs and nonmetropolitan areas alike. This decline is usually attributed to the opportunity costs of college attendance--as one enters adult life and takes on adult responsibilities, other interests begin to compete with higher education for one's time.

While college participation rates are highest for those from the suburbs between 18 and 21 years, they drop sharply after that. By age 22 and thereafter, college participation rates are highest among those who live in the central cities. For example, between the ages of 22 and 24 years, college participation rates for high school graduates are 27.6 percent in the suburbs and 32.7 percent in the central cities.

At all age levels, college participation rates are lowest in nonmetropolitan regions. These differences tend to increase with age. Adults who live in nonmetropolitan areas are least likely to be engaged in higher education.

College Continuation Rates for 18-19 Year Olds
by Race/Ethnicity and Metropolitan Status
1996



Chance for College

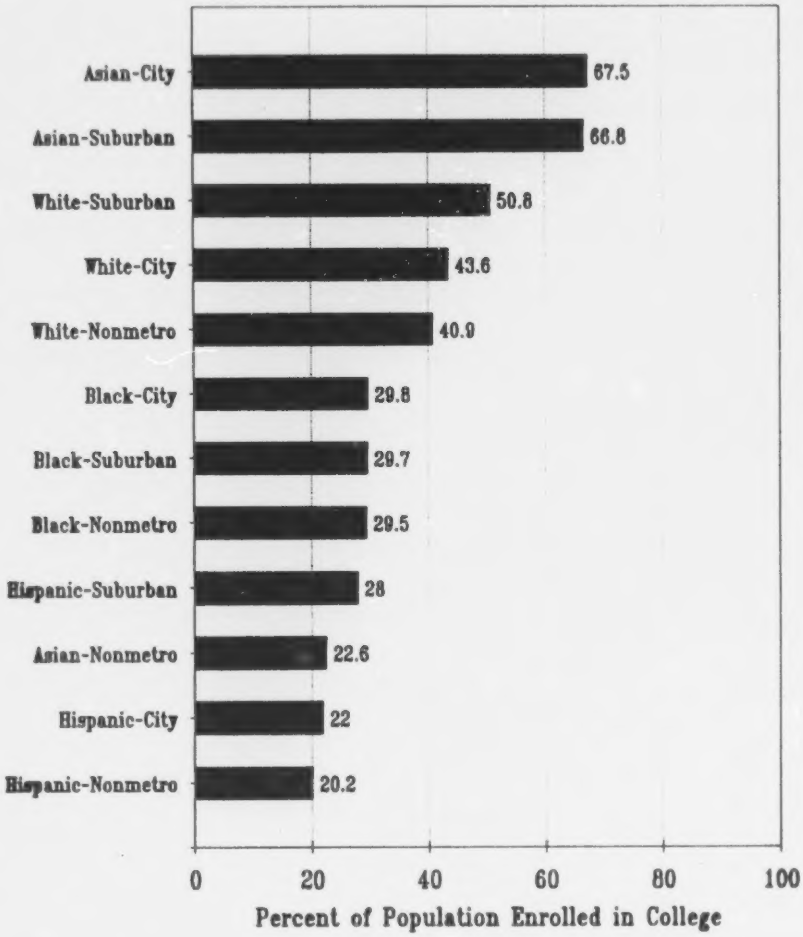
Of the 7,375,000 18-19 year olds in the civilian, noninstitutional population in October of 1996, 5,205,000 had graduated from high school and 3,309,000 were enrolled in college.

Chance for college is the mathematical product of the high school graduation rate and the college continuation rate. It is the proportion of the 18-19 year old cohort of the population that is enrolled in college.

The chart on page 5 shows the proportion of central city, suburban and nonmetropolitan 18-19 year olds enrolled in college for each year from 1967 through 1996. For an 18-19 year old from the central city, the chance for college in 1996 was 40.7 percent (.670 * .609). For another from the suburbs, the chance for college was 50.1 percent (.743 * .674). For a third person from a nonmetropolitan area, chance for college was 38.8 percent (.673 * .577).

Trends. Over the last three decades, and in particular over the last twenty-

Chance for College for 18-19 Year Olds
by Race/Ethnicity and Metropolitan Status
1996



five years, chance for college has increased for all three groups. This occurred despite the decline in the high school graduation rate. The increase in the college continuation rate for those who graduated from high school more than offset the decline in the high school graduation rate. Between 1967 and 1996:

- Chance for college increased by 8.9 percent in the central cities.
- Chance for college increased by 7.8 percent in the suburbs.
- Chance for college increased by 5.4 percent in nonmetropolitan areas.

Had we calculated these changes between about 1973 and 1996, they would have been considerably greater because chances generally declined between 1967 and 1973.

Race/ethnicity. The differences across racial/ethnic groups in high school graduation and college continuation are magnified when we calculate chance for college here also. In 1996 the chance that an 18-19 year old would be enrolled in college ranged from 20.2 percent for nonmetropolitan Hispanics to 67.5 percent for Asians from central cities. These data are shown in the chart on this page.

Age. Between the ages of 18 and 21, the largest proportion of the population found enrolled in college is in the suburbs, and the least in nonmetro regions.

However, from age 22 on the largest proportion of the population enrolled in higher education is in the central cities. The smallest proportion enrolled in college is in nonmetropolitan areas at every age level.

Conclusions

This examination of Census Bureau data on higher educational opportunity has focused on metropolitan status. The population--mainly of 18-19 year olds--is divided into those living in central cities, suburbs and nonmetropolitan areas of the United States.

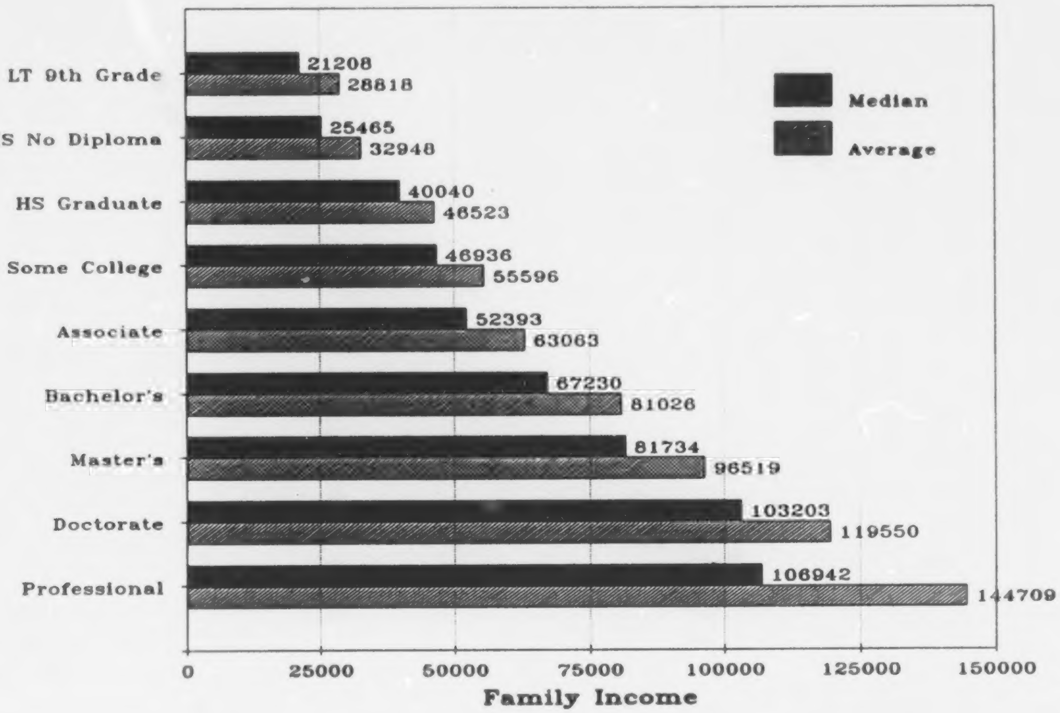
The findings show generally that the chance of both graduating from high school and enrolling in college by ages 18-19 years is greatest--by far--for those from suburbs of central cities. This advantage has held for all of the last three decades.

Until the late 1980s, 18-19 year olds from central cities were next most likely to be enrolled in college. However, since about 1988 the central city and nonmetropolitan groups have fared about equally well. Central city youth are less likely to graduate from high school, but more likely to go on to college if they do than are 18-19 year olds from nonmetropolitan areas.

The classification of populations geographically captures more than spatial aspects of education. But particularly for those living outside of metropolitan areas, the proximity of high schools and distance to colleges suggests that geographic barriers to higher education remain for some.

Family Income by Educational Attainment 1956 to 1997

Median and Average Family Income
by Educational Attainment of Householder
1997



Most of us live our lives in family units. The Census Bureau defines a family household as two or more people, related by blood, marriage or adoption, living together in the same housing unit. Mainly this includes spouses and their children. Its the way nearly of us were raised. It is also the way we raise the next generation.

The income available to families is a fair definition of family living standards. More money means higher living standards, and less money means lower living standards. We use money to live on, and at lower levels of family income a greater share of income is devoted to meeting basic survival needs (and less is available to finance higher education). At higher levels of income a greater share of family income is available for discretionary purchases of goods and services that add choice-based quality to our living standards.

The importance of this focus on family income grows in importance as government policy retreats from income-maintenance and family support social policies. We are now trying to move families off welfare and into self-supporting economic and social roles. Moreover, we are retreating from affirmative action approaches that recognize distinctions between people based on race/ethnicity and gender.

Significantly, federal policy designed to foster higher educational opportunity by removing financial and other barriers to higher education is based largely on family income. We still believe in government policy that differences in income provide legitimate bases for policy interventions in people's lives. The Federal Methodology of needs-analysis for student financial aid is based largely on family income. Qualification for federal outreach and supportive services through TRIO programs is based on family incomes below 150 percent of the federal poverty level.

We recognize that income determines private welfare--for individuals, families, communities and states--and that lack of income provides legitimate bases for government social policies such as Title IV of the Higher Education Act of 1965.

Here we examine the relationship between the income of families and the educational attainment of the family householder. This relationship is not only a powerful one by itself and important to government social policy, but changes in the relationship between educational attainment and family income since about 1973 make the importance of education far stronger today that it was before 1973.

Roughly speaking, since 1973, the rich have gotten getting richer, the poor have gotten poorer and the dividing line between the richer and the poorer is the difference between their educational attainment.

The Data

Most of the data used in this analysis come from a single source, the Census Bureau's Current Population Survey. To illustrate the idea of discretionary family income, we also use data on poverty levels for families.

Sources. The Census Bureau both publishes an annual report on income, as well as posts the report and historical tables from this report on its website. The paper report is:

DeNavas, C., Cleveland, R. W., and Jones, Jr. A. F. (September 1998.) *Money Income and the United States: 1997 (With Separate Data on Valuation of Noncash Benefits).* Current Population Reports, Consumer Income, P20-200. Washington, DC: U.S. Government Printing Office.

The Census Bureau's website has an income page where current, recent and historical data on income may be accessed and downloaded:

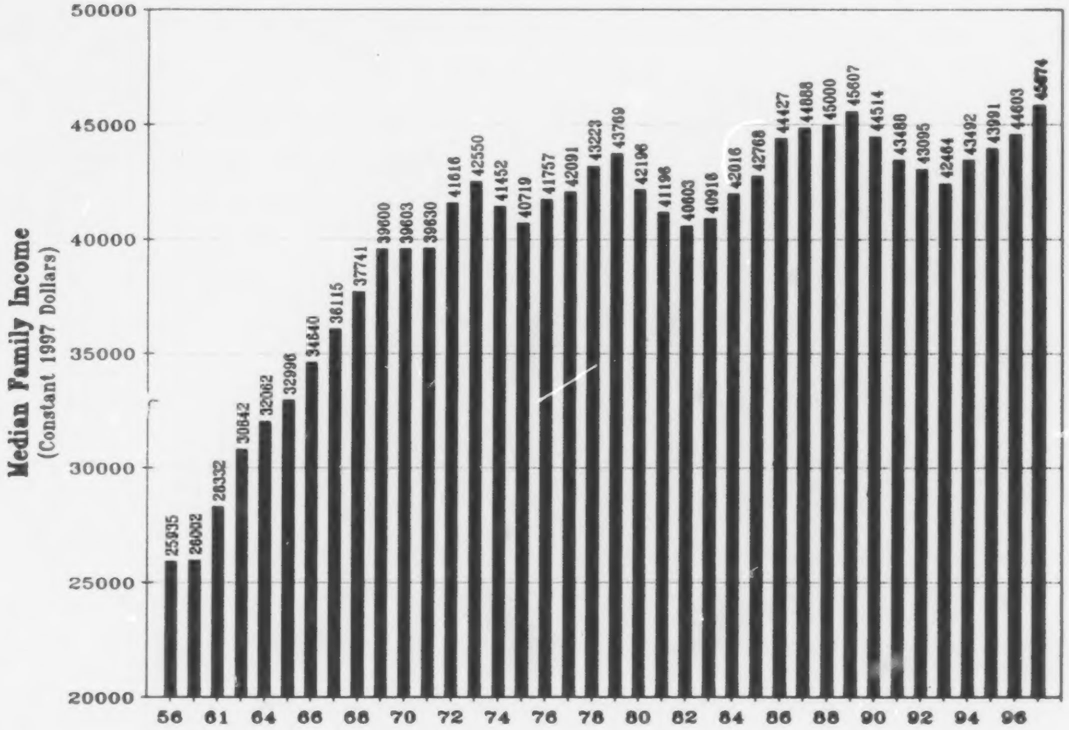
http://www.census.gov/hhes/www/income.html

For this analysis we used historical tables downloaded through this page. For the major reports, Adobe Acrobat software is required. This software may be access, downloaded and installed through a link on this website.

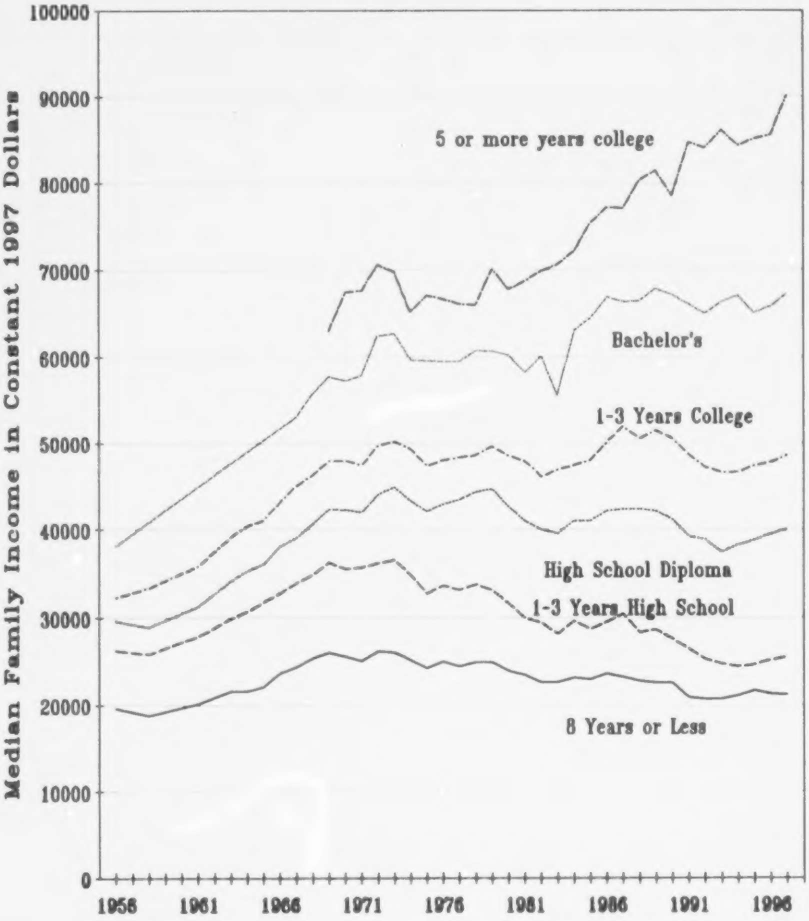
In addition we have used poverty threshold data from another page on the Census Bureau's website:

http://www.census.gov/hhes/www/poverty.html

Median Family Income for All Families
1956 to 1997



Median Family Income by Educational Attainment of Householder 1956 to 1997



Definitions. Several terms used by the Census Bureau and here have precise meanings. Colloquial use should be checked against these meanings.

Family refers to a group of two or more people related by birth, marriage or adoption who reside together.

Family household are households maintained by a family.

Householder refers to the person (or one of the people) who owns or rents the housing unit.

Income is the money income received during a calendar year from each of the following sources:
- Earnings
- Unemployment compensation
- Workers' compensation
- Social security
- Supplemental security income
- Public assistance
- Veteran's payments
- Survivor benefits
- Disability benefits
- Pension and retirement income
- Interest
- Dividends
- Rents, royalties, and estates and trusts
- Educational assistance
- Alimony
- Child support
- Financial assistance from outside of the household
- Other income

For further definition of these components of income, see the P60-200 report on income for 1997.

Educational attainment of the householder is the highest degree completed by the person in whose name the housing unit is owned or leased.

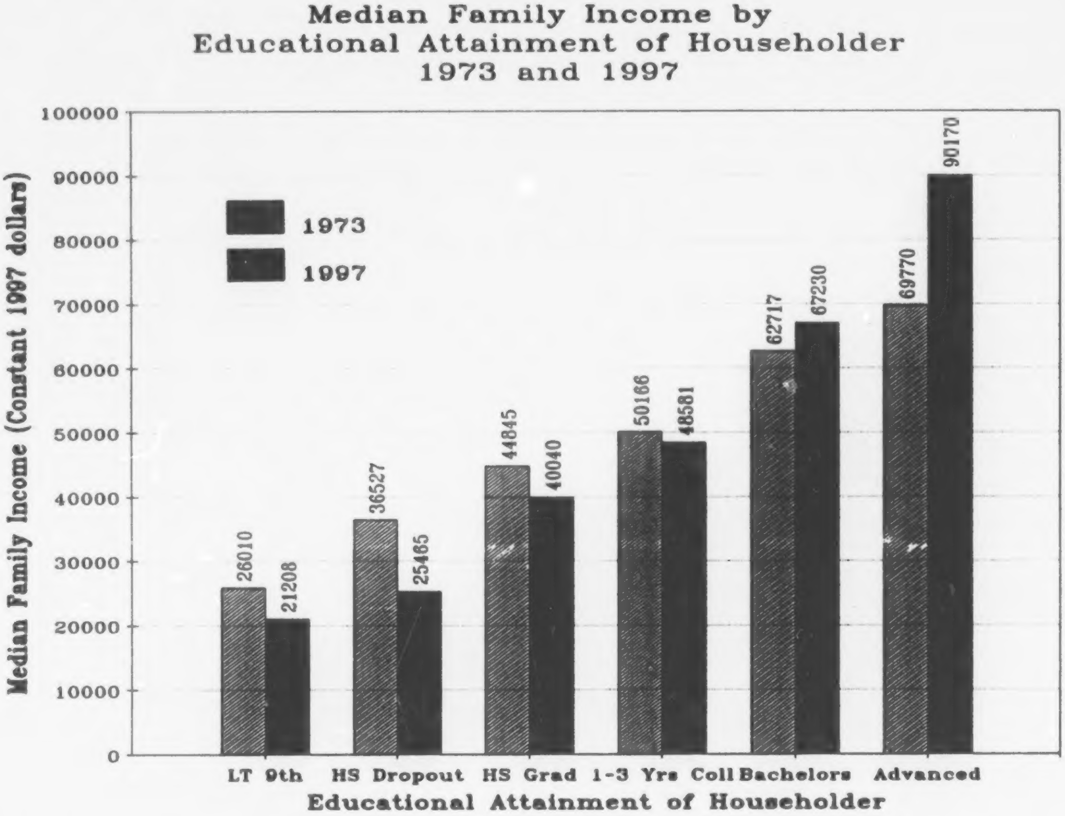
Family Income

In 1997 median family income for all families in the United States was $45,874. (Median means that half of all families had lower incomes and half had higher incomes.) Average family income for all families in 1997 was $58,242. (Average or mean is the sum of all family income divided by the number of families.)

Over the last 40 years, there have been two distinct trends in median family income. During the first period, from about 1956 through 1973, median family income increased sharply year-after-year. But after 1973 median family income stopped growing. Mostly, it fluctuated up and down, but remained within a range of $40,000 to $45,000. Generally median family income has declined with economic recession, and increased with economic expansion. The 1997 figure of $45,874 is just above the high end of this range and is the highest on record.

Educational Attainment

By levels of educational attainment of the family householder, both median and average family incomes increased along with educational attainment, as shown in the chart on page 11. For



example, using the median measure, median family incomes headed by persons with 1 to 3 years of high school but no diploma was $25,465. This increased to $40,040 for those headed by high school graduates. It increased further to $52,393 for families headed by persons with an associate degree. For families headed by a persons with a bachelor's degree, median family income was $67,230. At the highest end, median family income for families headed by persons with professional degrees was $106,942.

At each level of educational attainment, average family income was higher than the median. This occurs naturally because some families at each level of educational attainment have relatively very high incomes and their incomes pull up the average above the median.

Trends

The relationship between family income and educational attainment of the householder is clearly a very strong one. More education leads directly to more income.

Even more important, however, is that the relationship between income and educational attainment has strengthened--greatly--between 1973 and 1997. While median family income for all families has merely fluctuated since 1973, *family income has been significantly redistributed according to educational attainment. Family income has been shifting steadily toward families headed by those with college educations, and away from families headed by persons with a high school education or less since 1973.*

For example, real (inflation adjusted) median family income for families headed by persons with 1 to 3 years of high school but no diploma have declined from $36,527 to $25,465 between 1973 and 1997. For families headed by high school graduates, inflation-adjusted incomes have declined from $44,845 to $40,040.

No longer can parents say: "A high school education was good enough for me, so a high school education is good enough for my kids." That statement is not true and hasn't been true since the 1970s. For parents with high school educations or less, just to maintain the parents' family living standards requires education beyond what the parents acquired. Usually this means one educational level beyond what the parents have.

Where real gains in family incomes

incomes and the lifestyles they support have occurred begins at the bachelor's degree. Here family incomes increased, from $62,717 in 1973 to $67,230 in 1997. For families headed by persons with advanced degrees, median family incomes increased from $69,770 in 1973 to $90,170 in 1997.

(Note that in 1991 the Census Bureau changed the definition of educational attainment from years of school completed to highest degree earned. Thus, family income data on the associate degree was not available until 1991. Prior to 1991, these data were combined with other data for less than 4 years of college and called 1 to 3 years of college.)

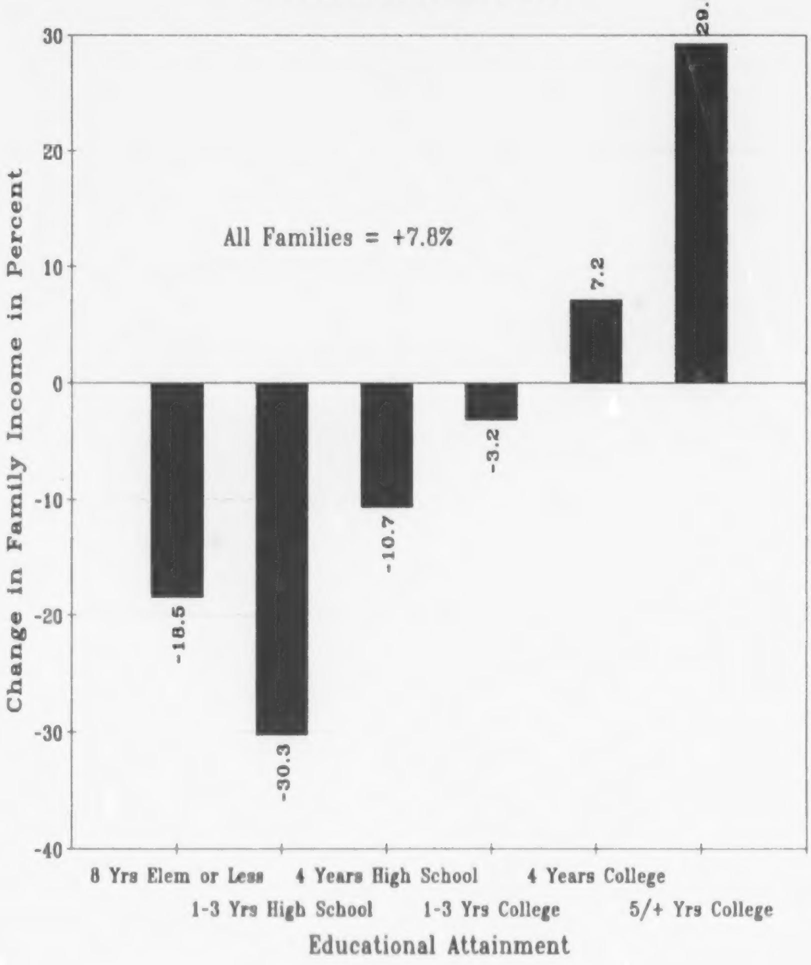
Discretionary Family Income

Another way of examining the relationship between educational attainment and family income is to look at the contribution of education to discretionary family income. This is the income above and beyond what is required to meet the bare essentials of survival--a minimum diet of food, for example. With discretionary income families can begin to make choices based on preferences and not just needs. These choices with discretionary income enrich and add quality to the welfare of the family.

The bare-bones minimum needed to survive is the poverty threshold. In 1997, for a family of four the weighted average threshold was $16,400. This, deducted from median family income at each level of educational attainment, is discretionary family income. Here we calculate the proportion of median family income that is discretionary.

In 1997 64 percent of median family income for all families was discretionary. This is up somewhat from 61 percent from 1970 through 1980, and up sharply from 47 percent in 1961.

Change in Median Family Income
by Educational Attainment of Householder
Between 1973 and 1997



Discretionary Income as a Proportion of Median Family Income
by Educational Attainment of Head of Household

	1961	1970	1975	1980	1985	1990	1993	1996	1997	Change: 1970>97
8 Years or Less	25%	40%	35%	31%	29%	27%	21%	23%	23%	-17%
1-3 Years HS	46%	57%	52%	48%	43%	40%	34%	35%	36%	-21%
HS Graduate	52%	64%	63%	62%	61%	60%	56%	58%	59%	-5%
1-3 Years College	58%	68%	67%	66%	66%	68%	65%	66%	66%	-2%
4 Years College	67%	73%	74%	73%	75%	76%	75%	75%	76%	+3%
5/+ Years College	DNA	77%	77%	76%	78%	79%	81%	81%	82%	+5%
All Families	47%	61%	61%	61%	62%	63%	61%	63%	64%	+3%

Between 1970 and 1997, discretionary income decreased for those families with least formal education, and increased for those with the most education. In the worst case example, for families headed by persons with 1 to 3 years of high school but no diploma, discretionary income declined from 57 percent of the median in 1970 to 36 percent by 1997. For families headed by high school graduates, between 1970 and 1997 the decline in discretionary income was from 64 to 59 percent.

When we get to families headed by persons with 1 to 3 years of college--short of a bachelor's degree--the decline was small, from 68 to 66 percent between 1970 and 1997.

At the bachelor's degree level, discretionary family income increased from 73 to 76 percent between 1970 and 1997. For those with advanced degrees, discretionary income increased from 77 to 82 percent.

The general redistribution of family income from less well educated families to better educated families shows up here in our measurement of quality of life. Taken as a measure of quality of life, discretionary family income has been lost for families headed by persons with a high school education or less, and gained for families headed by persons with at least a bachelor's degree from college.

Summary and Conclusions

This study has examined the relationship between educational attainment and family income. The most obvious findings are 1) that as education increase, family income increases, and 2) this relationship has grown substantially stronger since about 1973.

Equally important is the finding that real incomes of families headed by persons with a high school education or less have declined since 1973, while real incomes of families headed by persons with a bachelor's degree or more have increased.

One interpretation of this finding is that the labor market is oversupplied with insufficiently educated workers, and undersupplied with workers at the high end of educational attainment. This is a straightforward demand/supply interpretation of changes in family income at different levels of parental educational attainment. Many other interpretations are important too. Since society consists largely of family units, the health of society depends increasingly on the educational attainment of adults. And just as obvious, the welfare of children raised in families is dependent on the educational attainment of the parents.

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Number 83 **Oskaloosa, Iowa** **May 1999**

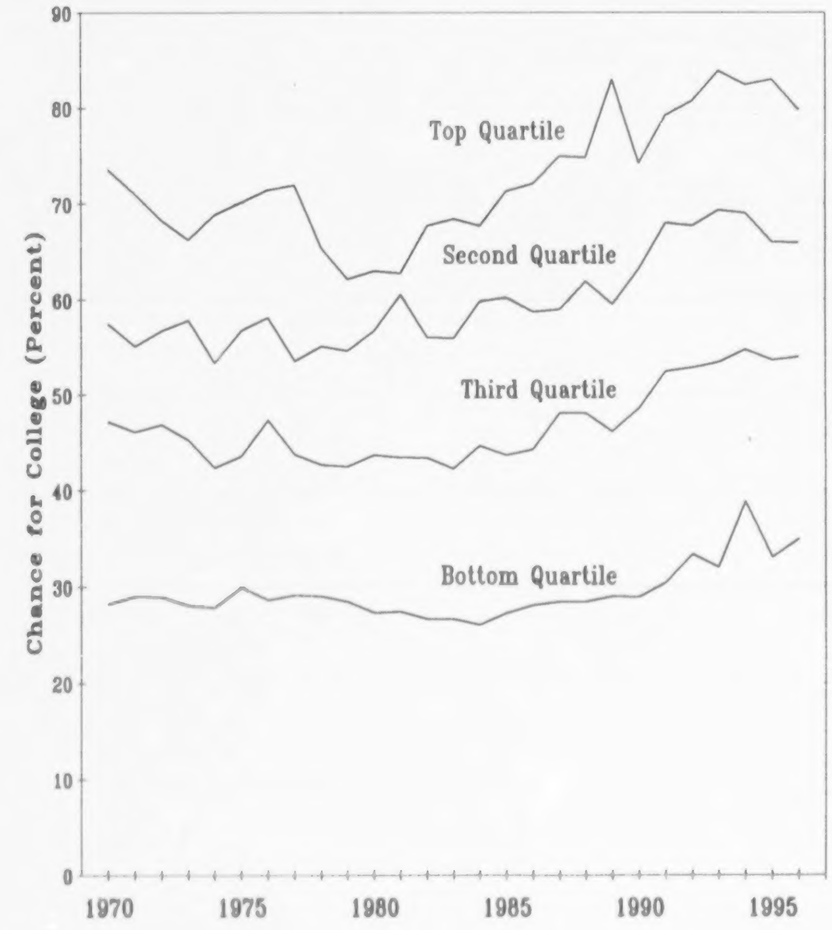
Chance for College for Dependent Students from Low Income Families by State
1992-93 to 1997-98

In the December 1998 issue of OPPORTUNITY (#78) we published our initial estimates of chance for college for dependent students from low income families by state. Subsequently we have revised these estimates--usually downward--through an important technical adjustment that more fully counts the low income population in the appropriate age cohort in each state. These revised estimates are presented here.

This analysis extends the previous analysis in several ways. First, this analysis goes back in years to graded public school enrollments to capture the original size of the current cohort of 18 to 24 year old dependent Pell Grant recipients when they were enrolled in 4th through 9th grades. Second, this analysis calculates chance for college by state over six years, from 1992-93 through 1997-98. This enables us to calculate averages of fluctuating data as well as trends over the recent six-year period.

The results of this revisit, we believe, represent improved estimates of chance for college for dependent college students between 18 and 24 years of age.

Chance for College for Dependent 18 to 24 Year Olds by Family Income Quartiles in the United States 1970 to 1996



By many measures students from low income family backgrounds are at significant disadvantages in the educational system. The usual barriers to educational opportunity are piled mercilessly on these students. These barriers include financial, academic, social, cultural, institutional and others. Because these barriers to educational opportunity are so concentrated on those born into lowest income families, public policy usually (at least until recently) focused its

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programs and resources on students from low income family backgrounds. Examples abound: Title I of the Elementary and Secondary Education Act, the Title IV need-based financial aid and TRIO programs of the Higher Education Act, over eighty percent of state financial aid funding for undergraduates, etc.

In this analysis we are mainly interested in what is happening to students on a state-by-state basis. However, to provide an overview of the state analyses that follow, we introduce the subject with national data collected by the Census Bureau in the Current Population Survey, and previously reported in OPPORTUNITY in September 1998 (#75) in a different format.

The National Picture

The mix of federal and state policy, program and funding efforts produces mixed results. As the chart on page 1 shows, chance for college (the product of high school graduation rates and college continuation rates for high school graduates) has never come close to equalizing chance for college across levels of family income since 1970.

In 1996, for example, the chance that a student would both graduate from high school and continue their studies in college between the ages of 18 and 24 years was:

- 34.9 percent for those from the bottom quartile of family income, below about $24,500,
- 53.9 percent for those from the second quartile, up to about $45,000 in family income,
- 65.9 percent for those from the third quartile, up to about $72,000 in family income, and
- 79.7 percent for those from the top quartile of family income, above about $72,000.

In fact, since 1980 when federal and state policy-makers began to reintroduce price barriers to higher educational opportunity at both federal and especially state levels, the disparities in chance for college have increased across levels of family income:

- In the bottom quartile of family income, the chance for college increased by 7.6 percent between 1980 and 1996.
- In the second family income quartile, chance for college increased by 10.3 percent.
- In the third family income quartile, chance for college increased by 9.2 percent.
- In the top quartile, chance for college increased by 16.7 percent between 1980 and 1996.

Roughly speaking, chance for college is now, in the mid 1990s, more unequally distributed across levels of family income than it has been at any time since 1970 when data were first reported.

However, the more serious barriers to educational attainment for students from low income families occur within the educational system. Increasingly low income students are shifting their enrollment from 4-year to public 2-year colleges, to capture the benefit of lower attendance costs. They are also do not like to take out educational loans to finance their higher educations. They usually work--often too much--to finance their higher educations. Four-year institutions, too, are raising admissions standards and shifting their institutional aid awards to students from higher family income levels (merit scholarships).

The best evidence that we have been able to compile suggests a sharp decline in bachelor's degree completion rates by age 24 for students from the bottom quartile of family income. In 1984 about 28 percent of those from the bottom quartile of family income who enrolled in college completed a bachelor's

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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degree by age 24. By 1996 this had dropped to about 15 percent--almost half.

The Data and Calculation

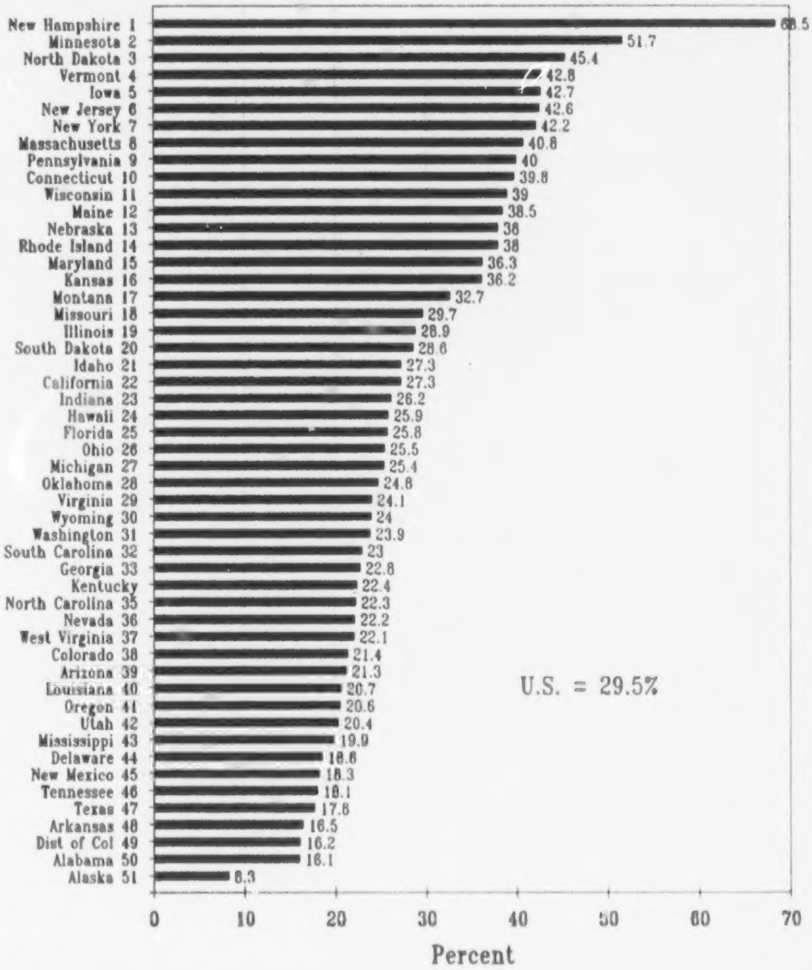
The calculation of chance for college is a ratio of the number of low income undergraduate students in college divided by the number of low income students in the same age cohort in the population.

This ratio combines both high school graduation rates and college continuation rates into a single number. We have chosen to do this both because of limitations in the data and because we wish to emphasize that getting to college requires *both* high school graduation *and* college continuation for those who graduate from high school. Some states emphasize the latter and ignore the former. Our approach measures state efforts at both high school graduation and college continuation.

The numerator of our ratio of chance for college by state is the number of dependent Pell Grant recipients from each state. These recipients are legal residents of the state, but may be enrolled in a postsecondary institution in another state. These data are compiled at the end of each Pell Grant processing year, but not published in the formal Pell Grant End-of-Year Report. They are available from the Department of Education (Steve Carter) from the research files.

The denominator of our ratio is the number of low income persons in a state in the same age cohort as the population of dependent Pell Grant recipients. To get this number, we begin with the number of students enrolled in 4th through 9th grade in the state's public schools nine years earlier. We then multiply this number by the proportion of students in K-12 education that year that participated in the federal free lunch program. The graded school enrollment data are collected and published by the National Center for Education Statistics in the annual *Digest of Education Statistics*. The data on free and reduced school lunch program participation were prepared for OPPORTUNITY by the Child Nutrition Division, Food and Nutrition Service, U.S. Department of Agriculture (Jeffrey Derr). The free lunch participation rate data are available for the years 1992-93 through 1997-98. For years prior to 1992-93, we estimated the free lunch participation rate by extrapolation using Census Bureau estimates of state poverty rates.

Chance for College for Students from Low Income Families
Average of 1992-93 to 1997-98



The chance for college percentages that result from these calculation are available for the six academic years between 1992-93 through 1997-98. The national average for these six years is 29.5 percent. That is to say, an average of 29.5 percent of those who came from low income families both graduated from high school and were enrolled in college (and receiving Pell Grants) between the ages of 18 and 24 years over the six year period from 1992-93 through 1997-98.

Over the six years for which this ratio was calculated, the chance that a student from a low income college would reach college increased steadily from 23.2 percent in 1992-93, to 34.4 percent by 1997-98. This is below the ratios compiled in the chart on page 1 from Census Bureau data, but the increases over this period are consistent in both data sets.

The State Picture

For the six year period of available data, there was an extraordinarily wide range across the states in the chance that a student from a low income family would reach college between the ages of 18 and 24 years. Across the states, a student was eight times more likely to reach college from New Hampshire compared to another low income student from Alaska.

At the high end, in New Hampshire, an average of 68.5 percent of those from low income families reached college. Over the six years for which this ratio was calculated, it ranged from 43.6 percent (1992-93) to 105.4 percent (1995-96). In four of the six years, New Hampshire had the highest chance for college for students from low income families of any state in the country.

Minnesota ranked second. An average of 51.7 percent of its low income students reached college over the six years of data. Minnesota ranked first among the 50 states in two of these six years. Other states where the six-year average chance for college exceeded 40 percent were **North Dakota, Vermont, Iowa, New Jersey, New York, Massachusetts and Pennsylvania.**

At the low end, in **Alaska**, just 8.3 percent of those from low income families reached college. In all six years Alaska ranked dead last in the proportion of its low income students who reached college.

Other states where the six-year average chance for college for students from low income families was below 20 percent were **Alabama, District of Columbia, Arkansas, Texas, Tennessee, New Mexico, Delaware and Mississippi.**

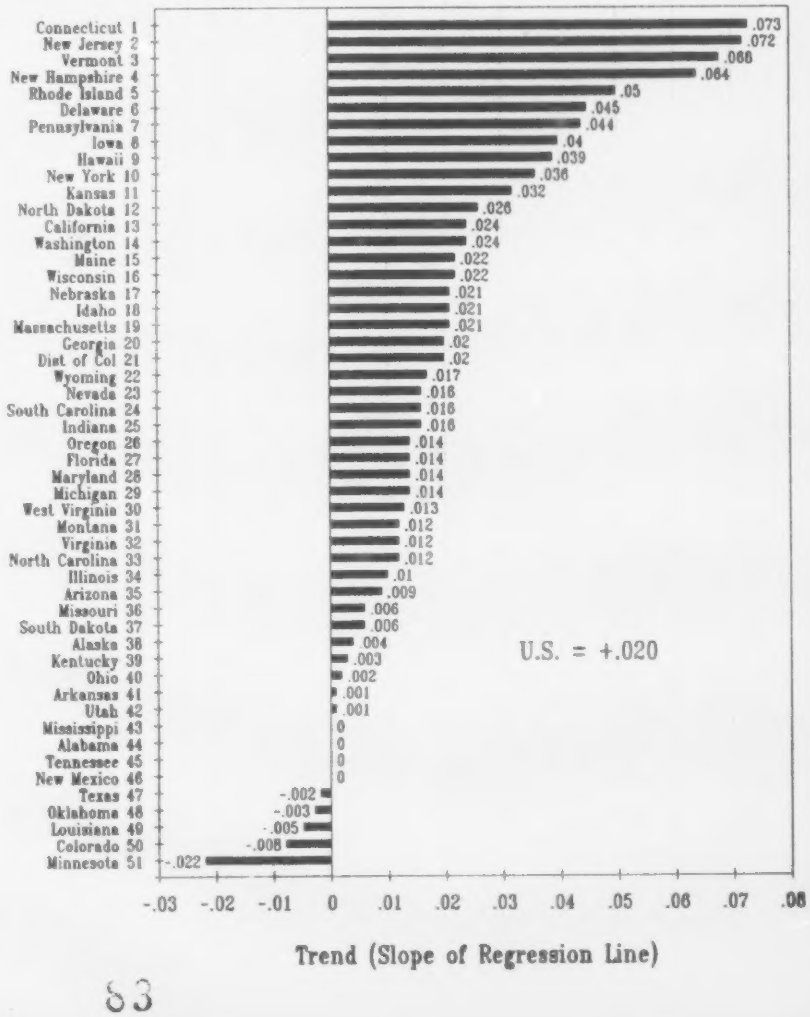
Trends in the States

Overall, the trend in chance for college for students from low income families was sharply upward between 1992-93 and 1997-98, from 23.2 to 34.4 percent over six years.

We determined the trend to the data by calculating the slope of the regression line through the six years of each state's data. The trend measure is the coefficient m on x (time). Where the trend has a positive sign, the trend is positive. Where the trend has a negative sign, the trend is negative.

Forty-two states had positive trends, although some just barely so. The states with the largest positive trends were **Connecticut, New Jersey, Vermont and New Hampshire.** Five states had negative trends. They were **Minnesota, Colorado, Louisiana, Oklahoma and Texas.**

Chance for College for Students from Low Income Families
Trend from 1992-93 to 1997-98



Chance for College for Students from Low Income Families by State
1992-93 to 1997-98

	<---------------Fall of:--------------->							
State	1992	1993	1994	1995	1996	1997	Mean	Trend
Alabama	15.9%	18.0%	15.9%	13.4%	15.3%	18.2%	16.1%	0.000
Alaska	6.5%	7.9%	9.5%	7.9%	8.1%	9.6%	8.3%	0.004
Arizona	18.6%	16.4%	26.7%	21.2%	22.9%	21.9%	21.3%	0.009
Arkansas	17.8%	15.1%	15.6%	16.2%	16.5%	17.8%	16.5%	0.001
California	17.8%	25.9%	27.3%	30.5%	32.3%	30.2%	27.3%	0.024
Colorado	20.4%	27.2%	23.4%	17.3%	19.6%	20.4%	21.4%	-0.008
Connecticut	22.8%	33.2%	32.3%	42.3%	39.9%	68.0%	39.8%	0.073
Delaware	14.4%	12.7%	11.4%	10.6%	22.4%	40.2%	18.6%	0.045
Dist of Col	12.2%	12.2%	13.0%	20.5%	19.3%	20.2%	16.2%	0.020
Florida	22.4%	21.7%	24.9%	30.0%	28.6%	27.1%	25.8%	0.014
Georgia	17.8%	20.7%	19.7%	24.7%	25.6%	28.2%	22.8%	0.020
Hawaii	14.1%	23.7%	22.3%	25.3%	36.1%	33.7%	25.9%	0.039
Idaho	24.4%	24.7%	26.0%	22.7%	29.0%	37.2%	27.3%	0.021
Illinois	28.7%	27.3%	25.1%	29.8%	28.4%	33.8%	28.9%	0.010
Indiana	22.7%	25.2%	25.7%	23.3%	27.3%	32.8%	26.2%	0.016
Iowa	37.5%	40.0%	31.8%	44.4%	39.3%	63.4%	42.7%	0.040
Kansas	30.4%	36.0%	27.5%	34.0%	41.6%	47.9%	36.2%	0.032
Kentucky	23.5%	21.0%	20.3%	22.0%	23.3%	24.1%	22.4%	0.003
Louisiana	20.7%	21.2%	24.4%	19.9%	17.7%	20.2%	20.7%	-0.005
Maine	31.5%	33.0%	38.2%	46.3%	42.3%	39.8%	38.5%	0.022
Maryland	32.6%	34.6%	35.8%	36.1%	39.2%	39.6%	36.3%	0.014
Massachusetts	36.9%	38.2%	37.8%	39.3%	46.3%	46.3%	40.8%	0.021
Michigan	23.3%	22.9%	24.2%	24.0%	28.0%	29.9%	25.4%	0.014
Minnesota	52.6%	68.4%	46.0%	44.9%	49.6%	48.4%	51.7%	-0.022
Mississippi	19.6%	20.5%	20.0%	18.6%	20.8%	19.9%	19.9%	0.000
Missouri	28.1%	29.9%	30.0%	28.1%	29.0%	33.3%	29.7%	0.006
Montana	30.9%	33.0%	30.2%	30.6%	31.1%	40.6%	32.7%	0.012
Nebraska	35.4%	37.2%	31.9%	35.3%	40.8%	47.4%	38.0%	0.021
Nevada	22.8%	18.8%	13.8%	26.0%	21.8%	29.8%	22.2%	0.016
New Hampshire	43.6%	54.3%	62.6%	105.4%	83.0%	62.4%	68.5%	0.064
New Jersey	26.4%	32.5%	40.9%	40.6%	47.2%	67.7%	42.6%	0.072
New Mexico	16.1%	20.0%	20.4%	17.1%	19.2%	17.0%	18.3%	-0.000
New York	33.5%	36.8%	37.9%	47.5%	46.2%	51.4%	42.2%	0.036
North Carolina	19.8%	21.0%	21.4%	21.3%	23.0%	27.1%	22.3%	0.012
North Dakota	46.0%	39.0%	36.5%	43.6%	51.7%	55.4%	45.4%	0.026
Ohio	25.9%	25.2%	25.3%	24.3%	25.1%	27.4%	25.5%	0.002
Oklahoma	23.6%	28.3%	23.3%	25.8%	23.4%	24.2%	24.8%	-0.003
Oregon	15.1%	20.6%	21.7%	21.1%	18.6%	26.5%	20.6%	0.014
Pennsylvania	29.0%	28.7%	42.5%	45.5%	45.2%	49.2%	40.0%	0.044
Rhode Island	22.0%	28.5%	41.1%	42.0%	50.9%	43.3%	38.0%	0.050
South Carolina	18.2%	21.9%	24.0%	21.2%	24.8%	28.1%	23.0%	0.016
South Dakota	27.5%	31.1%	25.5%	25.9%	28.6%	33.1%	28.6%	0.006
Tennessee	18.2%	19.2%	17.4%	16.5%	18.7%	18.7%	18.1%	0.000
Texas	19.0%	18.0%	17.7%	16.9%	17.5%	17.8%	17.8%	-0.002
Utah	18.6%	22.9%	21.7%	17.4%	20.6%	21.3%	20.4%	0.001
Vermont	23.3%	33.0%	47.1%	41.1%	50.9%	61.5%	42.8%	0.068
Virginia	19.7%	23.3%	23.9%	25.2%	26.4%	26.1%	24.1%	0.012
Washington	20.4%	21.3%	20.7%	20.2%	27.6%	33.3%	23.9%	0.024
West Virginia	20.1%	21.6%	20.0%	19.9%	21.9%	29.3%	22.1%	0.013
Wisconsin	43.5%	28.0%	35.1%	36.8%	38.1%	52.4%	39.0%	0.022
Wyoming	21.9%	24.2%	21.0%	17.2%	26.5%	33.3%	24.0%	0.017
Total	23.2%	28.2%	29.0%	30.4%	32.0%	34.4%	29.5%	0.020

Note: A copy of any state's spreadsheet used in this analysis is available on request from OPPORTUNITY.

A "Merit-Aware" Model for College Admissions and Affirmative Action

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Foreword

"I have found you an argument;
I am not obliged to find you an understanding." *Samuel Johnson*

I ask those committed to the cause of affirmative action in college admissions to consider three very simple but enormously important questions. First, between two students with the demonstrated ability to prosper and contribute in college, who is more meritorious: the student who has greatly exceeded society's expectations or one who has barely met those expectations? Second, should such a consideration the exceeding of expectations by a qualified student count for something in the college admissions process? And third, how much more information is required to answer the first two questions?

Over the last month, I have put these questions in one form or another to nearly one hundred individuals from all walks of life. Remarkably, regardless of the respondent's age, sex, race, or occupation, the answers were consistent: In a nutshell, the college-prepared and bound student who has thus far greatly exceeded our expectations is more meritorious, deserves special consideration in the admissions process, and no more information is required.

The purpose of this paper is to capitalize on that popular, common sense consensus among Americans and improve the general approach to college admissions by incorporating a revised concept, definition, and measure of *merit*. The new approach will have two extremely important uses.

- First, it will provide an alternative framework for evaluating and demonstrating the fairness of current admissions systems, models and processes-and their resulting admissions decisions—in the context of recent and future court challenges.
- Second, in the event that the use of data on race and ethnicity in admissions is more significantly curtailed or banned entirely, it will ensure an alternative means to replicate current admissions decisions in the absence of those data.

None of what follows presumes that current admissions models using race and ethnicity are inappropriate or are likely to be disallowed by the courts. Nothing suggests that data on race and ethnicity should be eliminated from the admissions process. On the contrary, the clear bias of the paper is that the goals and results of affirmative action are extremely important and must be pursued. Hopefully, institutions dedicated to those goals and results will benefit from considering, improving, and extending the concepts in the paper to their own policy and practice.

I will be happy to respond to questions, comments and criticisms by e-mail. Please send them to: wgoggin@aol.com

Executive Summary

It is the prerogative and the responsibility of each institution—not the court—to define achievement, merit, and other admission guidelines in a valid and appropriate manner. As long as admissions decisions are made in a way that treats all applicants fairly and equally, the results can be considered socially and educationally optimal and will pass legal tests.

This paper offers five insights that might further that objective:

- Standardized testing is currently used in college admissions primarily to measure achievement *but not merit*—the extent to which test performance exceeds what could have been reasonably expected given a student's academic background.
- Reliance on absolute test scores in the admission process can result in a significant *under-weighting of merit*—relative to achievement—discriminating against many successful, hard-working students of all races.
- The use of racial preferences in admissions has been an excellent economic and social investment having served in part to compensate for this weakness in the treatment of merit--that is, among other things, serving as a *proxy for*

merit for students of color.

- If merit is re-defined, re-measured,and re-weighted, the improved model would show that what may appear to be racial and ethnic biases in fact *fair and equal treatment.*
- Such a model could also be used—if need be—to replicate the results of current admissions systems and models *if the use of data on race and ethnicity were legally barred.*

Please bear in mind that using test score data to reengineer the concept of merit in a systematic way to account for the academic background of the applicant is *not* intended to either increase reliance on achievement testing or fundamentally modify current admissions decisions. Rather, the objective is to better interpret test scores and provide institutions maximum flexibility in justifying and replicating their *current* decisions in the wake of court decisions.

Ideally, the admissions community will take the lead in developing a new improved general model that can be translated easily into *institution-specific* versions. The model will include a new definition and alternative measures of merit that can be combined with other data currently used in admissions in a sophisticated, multi-stage approach providing maximum flexibility for individual institutions. While philosophical, methodological, and empirical issues are certain to arise, these should be dealt with in an expeditious manner or set aside in favor of quickly developing alternative definitions and measures of merit that are sound and can be fine-tuned over time.

Since the results of current admissions models can be justified and replicated with great precision by a reconstituted model that is legally and politically invulnerable, each institution should take the initiative in developing alternative merit measures that "work" for its own applicants.

Introduction

Critics of affirmative action warn institutions not to use race and ethnicity as major considerations in admitting students because it is un-American and unconstitutional. The most aggressive threaten continuous legal action until policies are abandoned that fail one simple but brutal test: Was even one white student denied who was better than any student of color who was admitted? If so, they contend, the admissions model is fatally flawed.

Thus far the approach of the higher education community has been well-intentioned and intuitive: Add more student characteristics to the admissions decision mix; treat the characteristics holistically; formulate the goal as diversity, even though its definition may be difficult; stretch the interpretation of *Bakke* to its limits; soften the most aggressive policies; and fight institution-by-institution, system-by-system, imploring colleagues whose systems have been struck down not to press the fight further lest all systems go down with them. Unfortunately, this approach has provided little relief.

Fearing that not nearly enough will have been done by the day of reckoning—because the goal of equal educational opportunity is still well beyond reach—socially responsible institutions are now looking for new solutions and maneuvering to postpone the constitutional test that might end it all. The critical questions for the higher education community are these:

- Can a new approach be found that will demonstrate more effectively that the results of current admissions systems and models are fair and just?
- Is it possible to buttress arguments like *diversity* by revisiting basic assumptions about achievement and merit and constructing an improved admissions model with redefined measures?

And, if the terms of the debate cannot be altered to guarantee victory in court, that is, in the event that use of data on race and ethnicity is further curtailed or banned entirely, can the new model achieve the underlying objectives of affirmative action? In particular:

- Could admitted classes under the new model not only possess the target academic profile but also be statistically representative of all Americans?
- Most ambitious, if college admissions systems are forced legally at some point to be *race-blind*, is it possible for the improved model to yield not just an adequate distribution of qualified students by race and ethnicity but *virtually the same* students of color admitted under current admissions models?

Fortunately, for supporters of affirmative action, the answer to all of these questions is *yes.*

An Improved Approach to College Admissions

In pursuit of equal educational opportunity, the higher education community and the admissions profession in particular could take five steps that might enhance the court's evaluation of current admissions systems and defend against worst legal outcomes:

- First, create and embrace a new *merit-aware* general admissions system, model, and process with parameters flexible enough to meet

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each institution's specific needs—whether public or private, regardless of selectivity.

- Second, understand and accept that testing not only measures student achievement but also—unintentionally and all too well—the *academic background* from which students have come.

- Third, and most important, recognize that race-based legal challenges feed off an overlooked weakness in current admissions systems: an incorrect definition, measurement, and weighting of merit—as opposed to achievement—that *begs the use of proxies*.

- Fourth, reformulate the approach to defining and measuring merit in a way that is educationally sound, culturally and politically acceptable, institution-specific, and, most important, *absolutely none of the court's business*.

- Fifth, implement the improved merit-aware admissions model, *as a community*, in a manner that demonstrates broad consensus, the richness of received practice, transparent fairness, and social justice.

Taking these steps, it will be possible to present current admissions decisions in a far better light and, in the event of legal reversal, continue to successfully pursue the goals of affirmative action.

An Improved Merit-Aware Admissions Model

To triumph, a superior *merit-aware* general admissions model must be created that does not beg social or legal challenge—with or without use of data on race and ethnicity:

- The model's objectives and results can be the very same as current models.

- Its application forms, processes, and data can remain largely unchanged.

- Only a few of its definitions, measures, and algorithms need to be slightly modified.

This new general model can be consistent with current practice, infinitely flexible, voluntary, and easily translated into specific versions that meet each institution's admissions priorities.

Achievement vs. Merit

In doing so, the admissions community and individual institutions must take the counterintuitive step of using achievement test data as the primary weapon in pursuing the goals of affirmative action. That these tests are regarded as the enemy of low-income, disadvantaged, and minority students and are now the primary weapon of critics is due largely to the incorrect manner in which their results have been interpreted. In addition to the measurement of achievement, if the higher education community could reach agreement that absolute test scores must be adjusted to also measure merit, these data can be used to ward off future legal challenges.

In that regard, can more be made of the fact that low-income, disadvantaged, and minority students typically attend high schools with test scores far below average national test scores? Is it appropriate, *in the context of current legal challenges*, to continue assuming that student test scores measure achievement in a manner critical to the admissions process; but that average scores by high school offer absolutely no clue as to how those scores might be adjusted to reflect merit—not achievement—and thus obtain a fairer, more just, and more accurate view of student performance?

A New Definition and Measure of Merit

In that context, the concept of merit must be revisited immediately. The community must confront now the inadequate definition and measure of merit implicit in the way test results are often used in current admissions models. Then, if institutions at some point are no longer free to use race and ethnicity to trump absolute test score when called for, its underlying weakness as a measure of merit will have been dealt with head on.

Does anyone, anywhere believe that a student's absolute test score is a perfect measure of anything, much less merit? Is not the concept of merit a little more complicated than can be captured by absolute test score alone? Merit, to most Americans, is not simply where you wind up, but what you did with what you were given. But, in the absence of race and ethnicity, there is little in current models to account for this basic American value, save grade point average and class rank. And these are not nearly powerful enough to do the job. For example, it has been amply demonstrated empirically that simply admitting the top 5% of high school graduates, while certainly a step in the right direction, cannot come close to replicating current admissions decisions based on race and ethnicity.

Contrary to the claims of its staunchest critics, the higher education community has never sought to guarantee admission to *every* African American, Hispanic, American Indian or other minority student to *every* college simply because of their color. Rather, there has been a deeply-held belief, shared by virtually all Americans, that hard work, citizenship, and extraordinary effort—that is, *meritorious* behavior, especially in the face of grim circumstance—occurs also among those who have experienced over a century of discrimination. Thus, as a society, we see a clear difference between achievement and merit: Most notably, we believe that very high levels of achievement are a *sufficient but not necessary condition* for merit. But, in the absence of data on race and ethnicity, this value cannot be captured completely by use of absolute test score—even if augmented with grade point average, class rank and qualitative data.

If merit—as distinguished from achievement—is an important value to be considered in the admissions process, is it possible to discard the use of law suit-inviting proxies in favor of a more direct definition and measure? Fortunately, the answer is yes and the new measure is but one step away from current practice: Add an ingredient to the admissions mix—one that is perfectly *race-blind*, but extraordinarily *race-sensitive*. Add a measure of how well the student has done *given the hand that he or she has been dealt*.

How fair, just, and American would that be?

Why not create a measure of the extent to which a student's achievement exceeds what could reasonably have been expected given his or her academic background? In particular, why not use a measure of the extent to which the actual test score exceeds the predicted score? Make no mistake, incorporated in the right admissions model, such a merit measure would be as powerful as race and ethnicity in achieving the goals of affirmative action.

A Simple Example. Assume three students from different high schools—two schools very good, the third not so good--have test scores of 1400, 1200, and 1100, respectively; there are only two seats available; and the institution's (target) minimum test score is 1200. If the student with the 1100 score is a minority student and the institution admits him or her, even partly on the basis of that knowledge, it might invite a legal challenge from either or both of the other two students. That is, even though a score of 1100 shows that the third student is qualified and is higher than the average college-going score for white students, a legal challenge is possible, forcing the institution to demonstrate that it had not discriminated against the other students on the basis of race or ethnicity.

In contrast, now assume that the admissions office had not known the race or ethnicity of the three students at the time of the admissions decision but had chosen Student A and Student C on the basis of the following data:

	Test Score	Average High School Test Score	Merit
Student A	1400	1400	0
Student B	1200	1350	-150 (or 0)
Student C	1100	950	+150

If the institution highly values merit as defined by the (overly) simple Merit Index given in the last column, would the admission of Student C still invite a law suit from Student B? Is there still a valid basis for a law suit? If Student B sued the institution, would he or she be likely win in court? No, no, and no.

Now examine the data in the table carefully from an affirmative action perspective. Is it possible to make an education guess as to which student is most likely the minority student? If the location of the three high schools were added to the data set above, would the institution be *relatively* certain which student was most likely the minority student? If it turns out *after the fact* that Student C is actually a white student, is that also acceptable? Yes, yes, and yes.

But consider this: Another institution could have ignored the average high school test scores and Merit Index and admitted Student A and Student B. Or, it could have calculated the Merit Index differently and used it in combination with other data such as grade point average and class rank. In short, an institution could use (or not use) any of an infinite number of combinations of Merit Index and other data, depending on what suits its goals and educational philosophy. And none of them are the proper business of any "guardian" of individual rights, any judge, or any court.

Generalizing, a well-designed, institution-specific merit index—added to an institution's traditional admissions approach and process—could provide a (test-adjusting) consideration that would allow proper identification and weighting of merit, as opposed to achievement. Such an index could (a) justify current admissions decisions and (b) substitute for data on race and ethnicity were their use ever legally precluded.

Thus, once the importance and relevance of merit is accepted, the search for the "right" index could transform what is now an intractable philosophical, moral, and legal problem into a relatively simple modeling exercise at the institution. In blunter terms, the question becomes: Will it work?

And it will work.

Combining Merit Indices and Stages of Admissions

But an admissions system incorporating the new model would not ignore race and ethnicity. At a minimum, those data could be used *explicitly and narrowly* to double-check and fine-tune results. Further, if the admissions process is thought of as having discrete stages, even more flexibility is possible.

For example, suppose a very selective institution normally receives about 15,000 applications, and typically admits about 5,000 students:

- **Stage One** could build a deliberately larger ***likely admit*** pool of 7,500 students on the basis of absolute test score, *merit index*, GPA, and class rank—but without race or ethnicity.
- **Stage Two**—designed to yield a ***near final*** admit pool of 5,500 students—could proceed holistically *as usual* but with race and ethnicity still not known *with certainty*.
- **Stage Three** could be designed to use race and ethnicity very narrowly as defined in *Bakke* to yield the ***final admit*** pool of 5,000 students.

Increasing the number of stages—whether computer-supported or manual—can maximize the number of admissions decisions made without *explicit* consideration of race, while still replicating the pattern of decisions in previous years. This, of course, has obvious and important implications for reducing the threat of race-based legal challenges. There is definitely something to be said for being holistic *at the margin*.

The combinations of (a) non-race-based merit and test score indices and (b) admission stages, of course, are infinite.

It is important to reflect on what even a simple Merit Index like the one used in the example above—namely, the absolute difference between absolute test score and average high school test score—implies for students who vastly exceed expectations, regardless of their race and ethnicity. At selective institutions, minority students who have been admitted in the past, with just a few exceptions, will score very high on such an index. In fact, as a group, they will score far above the average Merit Index for all admitted students.

If an admissions director or counselor knows or suspects this to be true at his or her institution, it is a strong empirical signal that an approach like the one above will work at the institution—that is, the approach will tend to select the "right" students in very early stages of admission, even in the absence of information about race and ethnicity.

Usefulness in the Current Legal Context

A new improved approach to defining, measuring, and properly weighting merit may have significance for current legal challenges as well. The ability to show that most or all students of color who were admitted performed very well on a merit index of the institution's own choice might make a difference. If the institution's admissions decisions appear reasonable from the perspective of merit—*properly measured*—it might be easier to justify those decisions in court. And, even had this been totally subconscious—that is, not an overt part of the admissions process—it would nevertheless demonstrate that the institution had acted in good faith, in a manner consistent with rewarding merit, would it not?

Also, would it not allow an institution whose admissions system had been struck down to immediately announce a new model that would virtually replicate admissions decisions, thereby minimizing a negative announcement effect that might undermine minority applications?

Design and Implementation Issues

As with any change in policy, especially one that goes against a long tradition, there may be resistance from many quarters on many grounds. Since the new approach is infinitely flexible, consistent with current practice, and voluntary, these objections should be dealt with expeditiously. Here are a few to consider:

- **Possible Objection**: This approach would undermine attempts to justify the use of race and ethnicity and, in effect, give up the cause of affirmative action. **Response**: On the contrary, this approach implies nothing of the sort; it is perfectly consistent with current admissions policies based on affirmative action-especially those aimed at "diversity." The approach is designed to work *with or without* those data at any stage of the admissions process.
- **Possible Objection**: The paper implies that current admissions models do not measure merit—as opposed to achievement—at all. **Response**: No, current admissions models do measure merit in a number of ways. One of the most important ways is admitting the top ranking students at most or every high school in a particular area—independent of test score. But if the use of race/ethnicity is barred legally, these models *as currently structured* simply cannot replicate previous admissions decisions for minority students.
- **Possible Objection**: This approach places even greater reliance on achievement test scores, further jeopardizing minority students. **Response**: Absolutely wrong. It "corrects" for the inappropriate overweighting of achievement and

identifies "meritorious" students of all races.

- **Possible Objection:** The amount by which a student's test score exceeds the high school's average is a poor definition of merit. **Response:** It may not be perfect, but it is clearly superior to absolute test score. And as long as absolute score is relied on so extensively, carries such great weight, and is the basis of legal challenge, it is imperative to put that score in an appropriate (testing) context.

- **Possible Objection:** These arguments are relevant to only a handful of very selective public and private institutions. **Response:** On the contrary, the number of public four-year institutions practicing selective admissions has increased by over 50 percent in the last decade. It is relevant to any institution (or any other entity, e.g., NCAA) that accepts/rejects applicants (predominantly) on the basis of absolute test score.

- **Possible Objection:** Currently, institutions do not have the test data by high school (and socioeconomic characteristics) necessary to estimate predicted test score. **Response:** Correct, but certainly a set of predicted (average) test scores by high school type and perhaps student characteristics could be easily generated. *Unbiased* statistical errors in data quality or designing an index are not typically issues for the court.

- **Possible Objection:** Average high school test score is not a good measure of what might have been expected of students. **Response:** True, it is likely *too high* at minority high schools, because many students do not take the test. The institution is free to choose or create an alternative measure (not based on race or ethnicity).

- **Possible Objection:** This approach substitutes a new measure of merit for achievement, making it difficult for institutions to maintain selectivity. **Response:** Absolutely wrong. It merely adds a merit-based consideration that *might* result in a student being admitted who would not have been using absolute test score alone or predominantly. The merit index could be set to yield only a positive value and could be designed to change previous admissions decisions *as little as possible*.

- **Possible Objection:** Such an approach would not yield the desired results; specifically, it might not yield as many minority students as do admissions current models. **Response:** On the contrary, it would yield many more minority students to choose among. Merit defined in this way is a very powerful and sensitive tool. In fact, the more selective the institution is, the more powerful the effect will be.

- **Possible Objection:** Critics will be able to show, as they have attempted to do with diversity, that the new approach is racially motivated, intent on producing a system based on quotas. **Response:** Absolutely false. It is neither based on, nor informed by, race; it is truly *race-blind*, discriminating in favor of every student who exceeds expectations regardless of race—including poor white students—making it *politically* viable.

- **Possible Objection:** This approach would not be nearly as effective for targeting minority students at the very best high schools who score below the average at that school. **Response:** Partly true, because those students are not academically disadvantaged. This approach is most effective for those students with disadvantaged academic backgrounds. However, nothing would preclude admitting *socially-disadvantaged* minority students with lower-than-average test scores from very good high schools on a narrow case-by-case basis.

- **Possible Objection:** The use of average achievement test scores by high school would further stigmatize those schools enrolling mostly minority students. **Response:** Very unlikely, since these calculations would be entirely hidden. If that is a major concern, use average test scores by type/location of high school.

Finally, it is one thing to contend that achievement test scores are racially and ethnically biased--and that differences among average test scores by high school are difficult, if not impossible, to explain and interpret. But it is quite another to suggest that they mean absolutely nothing. On the contrary, when a minority student from a high school with a test average of 975 scores 1200—well above the average college-going white score—it does mean something. Call it what you like, such a performance is exceedingly *meritorious*, i.e., deserving of both society's and the higher education community's approval. On that there is unanimous agreement. But it is precisely that student who is most at risk if current legal challenges prevail.

And, believing that such an academic performance is in fact meritorious, it is the institution's prerogative and responsibility—not the court's—to disregard any and all objections, and take this new improved approach without the approval or consent of any parties.

Repeat, it is up to each individual institution to decide—not the court.

A Technical Note on Institutional Simulations

It is possible for an institution to "back into" a new merit index tailored to its current admissions approach. One way of doing so would be the following:

- Using admissions data from previous years, impute a high school average score (or some other non race-based merit measure) for each student. (To get started, create a simple table of hypothetical averages.)

- For all those students for whom race or ethnicity was a very important (or determining) variable, calculate alternative merit measures—starting with the simplest—until a measure is found on which most or all of the students in this group score highly.

- Using the index that covers most or all previous minority admits, identify other students who were previously denied admission but also score highly on that index.

- The total of (a) previously admitted non-minority students, (b) previously admitted minority students, and (c) those not previously admitted but scoring high on the new index becomes the new *likely admit* pool from which the class would be *selected*.

- Using the institution's traditional approach—but without race/ethnicity identified—and not knowing the previous admissions decision, simulate (determine) the *near final* admit pool.

- Then, to determine the *final admit* pool, introduce the data on race and ethnicity and use them very narrowly to fine-tune decisions in a manner consistent with *Bakke*.

Compare the simulated and actual admissions decisions, recalibrate the process—index and stages—and repeat until satisfied with the result.

It may make sense for institutions with sufficient resources to run the new model and process *in parallel* with their existing system during the 1999-2000 academic year—to evaluate its results in a *"live"* situation.

Next Steps

Ideally, all sectors of the higher education community would join together to make this new *merit-aware* approach to admissions a reality. In that regard, three things must happen simultaneously:

- First, experts in achievement testing must lead the way in developing a set of predicted test scores (or other measures) by high school type (and possibly student characteristics).

- Second, the best in the admissions profession must begin to develop the new general merit-aware admissions model and alternative measures of merit.

- Third, the most dedicated admissions officers on campuses must begin to experiment with new indices that include merit defined in valid, accurate, and creative ways—using their data bases to simulate previous admissions decisions, using data on race and ethnicity *at the margin* in later stages of admission.

This should not take long: There is no reason this new approach cannot be in place at dozens of selective institutions to evaluate or select their next class of April 1, 2000—the first of the new millennium.

I will respond to your questions, comments, and criticisms by e-mail. Send to: wgoggin@aol.com

Editor's note:

Bill Goggin has over 25 years experience in higher education in the areas of policy analysis, program design and evaluation and student aid. However, he is not an expert in admissions, achievement testing or constitutional law. Thus, the purpose of the paper is not to tell institutions which students to admit, testing companies how to construct tests, or lawyers how to do their job in defending institutions. Rather, the purpose is to show the entire higher education community that there is a way out of the current legal and political dilemma affecting institutions dedicated to and practicing affirmative action in college admissions.

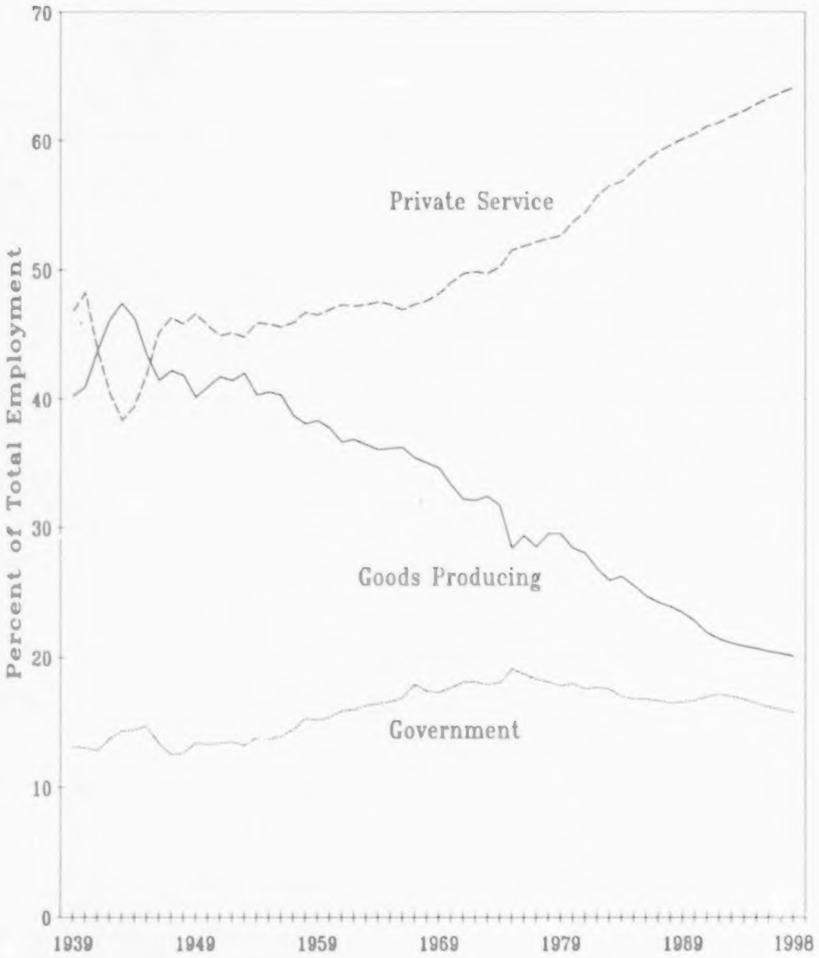
The paper has been reviewed privately by over a dozen experts in the admissions community who believe the approach has great merit and must be tested and evaluated at leading institutions. If the paper's content is correct--that it is possible for selective institutions to admit the very same students of color in a manner that is legally and politically invulnerable--it obviously has major implications.

An improved admissions model that can replicate traditional decisions at the most selective institutions but cannot be challenged in court or in state legislatures may seem a pipe dream. But the paper makes a strong case that it is incumbent on the higher education community to at least try.

Bill is an ardent supporter of affirmative action. He will provide, in his spare time, modeling expertise and advice to any institution in testing the new approach--free of charge. The paper was written in his spare time without remuneration. The views are strictly his own and do not represent any other individual or group. He holds a Ph.D. in Economics from Iowa State University, and has a daughter at the University of Virginia.

Changing Industrial Employment Effects on Men and Women
1939 to 1998

Distribution of Nonagricultural Employment by Industry 1939 to 1998



The dynamic character of the American economy is constantly changing the nature of employment in the labor force. The dynamic changes are not random--they are driven by clear economic pressures, such as technology and global competition. The economic changes produce jobs in some industries and reduce jobs in others. They produce or reduce jobs with differences in the education, training and skill requirements of employees.

The changes in the labor force have important messages for those who follow the processes of economic change and those who are affected by them. We examine one of these messages here: the different effects of labor market changes on men and women. In particular, we look at three aspects of employment by gender in the United States since World War II: employment by industry, labor force participation and unemployment. Examined in this way, quite different pictures emerge about jobs traditionally pursued by men and women in the dynamic American economy generally and labor force in particular.

There are two primary reasons why we examine these data from these perspectives. First, we are interested in the growing disparity in educational participation and attainment between young men and women. Compared to men, women have been making gradual but steady and ultimately very substantial progress in the educational system. This progress appears to be leading directly into greatly expanded employment opportunities for women.

However, young males differ sharply from this picture for young women. Young males have fallen behind their sisters in high school graduation, college continuation and bachelor's degree completion. As a result, although young males outnumber young females in the population, the proportion of bachelor's degrees awarded to females outnumbers those to males by a 55/45 margin. And by 2008 this will shift to a 58/42 margin according to projections by the National Center for Education Statistics.

The second reason we examine these data is because of serious problems adult males are experiencing in their traditional roles, and consequences of these problems for the rest of us. These problems are reflected in growing disengagement from traditional male economic, civic and family roles. At the margin there is a sharp drop-off in adult male labor force participation, voting rates and family roles including engagement with the children they have created.

No one can think these changes reflect a healthy condition for the adult American male, nor for their mothers, wives, sisters or their children--everyone whom their lives touch.

The Data

The data examined here all come from the Bureau of Labor Statistics. Some of these data have been published elsewhere. Other tabulations used here were prepared especially for this analysis.

We are especially grateful to Sharon Cohany and her colleagues at BLS for preparing and sharing the data used in the following analysis.

Changing Employment by Industry

In 1998 there were 125,832,000 persons in nonagricultural payroll employment in the U.S. This number has grown almost steadily since 1939 when it stood at 30,603,000.

Nonagricultural employment by industry may be usefully categorized into three main industrial groups: goods-producing, private service producing and government.

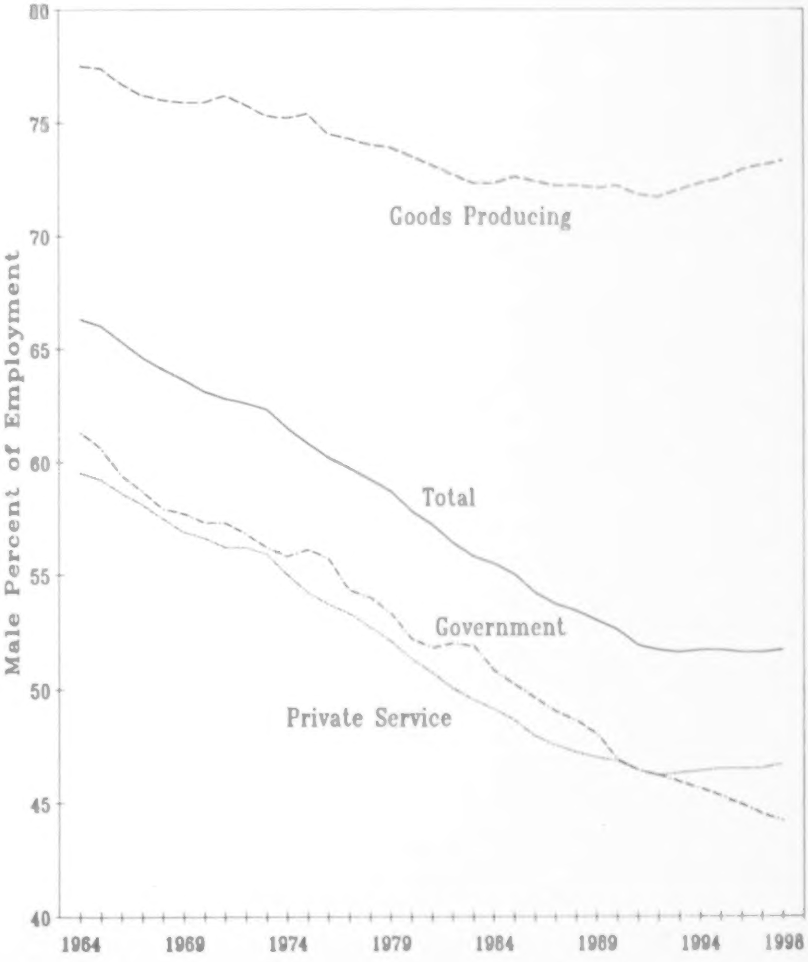
- Goods-producing industries include mining, construction and manufacturing, with manufacturing being the largest of the three.
- Private service-producing industries include transportation and public utilities, wholesale trade, retail trade, finance/insurance/real estate and services.
- Government defines itself.

The chart on page 13 shows the distribution of total nonfarm payrolls by these broad industrial classifications for the six decades from 1939 through 1998. The major trend is clear: a substantial shift in employment shares away from goods-producing industries to private servicing-producing industries, particularly since the early 1950s.

Goods-producing. In 1998 there were 25,256,000 persons employed in goods-producing industries. While this was double the number of persons employed in 1939, it was just about equal to the number employed in these industries in 1980.

The share of all jobs in goods-producing industries stood at 40.2 percent in 1939, bumped up to a peak of 47.4 percent in 1943, then dropped back to pre-War levels until 1956 when it stood at 40.3 percent of all jobs. But after 1956 this share dropped steadily and by 1998 stood at just 20.1 percent of all non-farm jobs. During this period the share of all jobs in construction grew very slightly, and the share of jobs in mining declined somewhat. But manufacturing took

Male Share of Employment by Industry
1964 to 1998



the big hit: from 41.5 percent of all jobs in 1943 to 14.9 percent in 1998--the smallest share of employment on record. The *number* of manufacturing jobs peaked at 21 million in 1979 and has since declined to 18.6 million (while the number of jobs increased in other industries by 38 million).

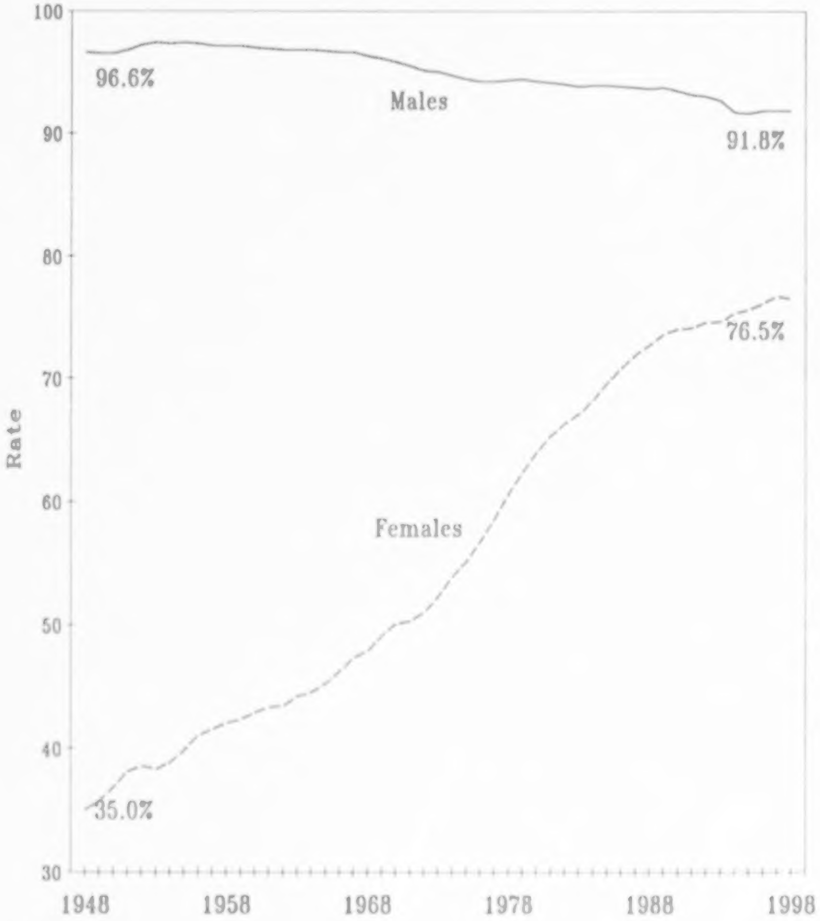
Private service producing. The share of jobs in private service-producing industries was 46.8 percent in 1939, and remained below that level until 1960 when it again reached 45.9 percent. After 1960 this share rose steadily to 64.1 percent in 1998, the highest share in the six decades of recorded data. The largest employment shares (of total employment) were 29.8 percent in services and 17.9 percent in retail trade. Over the last six years employment shares have declined mainly in transportation/public utilities. Most of the growth has occurred in services, from 11.4 percent in 1939 to 29.8 percent by 1998.

Employment by Gender and Industry

Employment distribution by gender varies significantly between industries, and within broad industrial groups over time. In particular we explore this questions since 1964 with the BLS employment data.

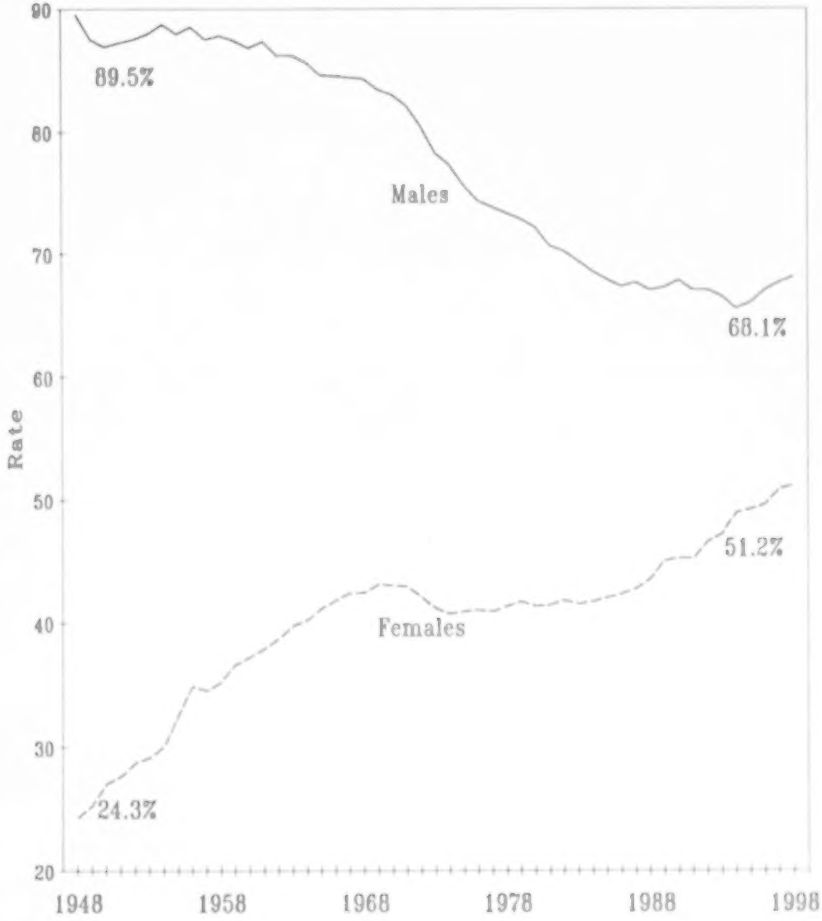
In 1998 the male share of total employment was 51.7 percent. Out of 125,832,000 jobs on nonfarm payrolls, 65,019,000 were held by men and 60,813,000 were held by women. The share of all such jobs held by men has declined steadily from 66.3 percent in 1964, to 63.1 percent in 1970, 57.8 percent in 1980 and 52.6 percent by 1990. Since 1991 the male share of total nonfarm employment has held constant at 51.7 percent.

Labor Force Participation Rates
by Gender, 25 to 54 years
1948 to 1998



Goods-producing. In the goods-producing industries, males comprise the largest share of employment. In 1998 it was 73.3 percent, down slightly from 77.5 percent in 1964 but above the low of 71.7 percent reached in 1992. In mining males constitute 85.7 percent of employment, and 88.8 percent in construction. In manufacturing, which comprises 74 percent of the goods-producing employment, males constitute 68 percent of the total. Women's share of these jobs have increased since 1964, but the gains are small and these industries remain largely men's worlds.

Private service-producing. The male share of employment in private service-producing industries has declined from 59.5 percent in 1964, to exactly 50.0 percent in 1982, to 46.8 percent by 1990. Since then it has remained very close to this share, and in 1998 stood at 46.7 percent of the total. For the different industries that make up the private service-producing group, the male share of employment was 69.9 percent in transportation and public utilities, 69.4 percent in wholesale trade, 47.4 percent in retail trade, 40.0 percent in services and 37.3 percent in finance/insurance/real



Labor Force Participation Rates
by Gender, 55 to 64 years
1948 to 1998

estate. Between 1964 and 1998 the male share of employment shrank substantially in all of these industries.

Government. The male share of employment in government in 1998 stood at 44.2 percent, down from 61.3 percent in 1964.

There are several crucial points to be made here. First, is that across each and all industries, males represent a shrinking share of nonfarm payroll employment. Second and more important, males dominate employment in the goods-producing industries that represent a sharply shrinking share of total nonfarm payroll employment in the United States since World War II. More about this will be said later.

Labor Force Participation by Gender

Over all working years between ages 25 and 64 years, male labor force participation has declined slightly between 1948 and 1998. This decline has occurred over the same period of time that the labor force participation rates for women were increasing very sharply.

For our purposes here, we disaggregate these labor force participation rates by gender *and by age*, since somewhat different pictures emerge for younger and older workers. Among those between the ages of 25 to 54 years, labor force participation rates were 91.8 percent for men and 76.5 percent for women. Over the last 50 years, however, male rates have *decreased* by 4.8 percent, while female rates have *increased* by 41.5 percent.

The picture is even more dramatic for those between 55 and 64 years of age. In 1998 the male labor force participation rate was 68.1 percent, compared to 51.2 percent for females. However, between 1948 and 1998 the rate for males *declined* by 21.4 percent while the rate for females *increased* by 26.9 percent. Most of the decline in the male rate occurred between about 1968 and 1994. The rate for females in this age range increased first between 1948 and 1970, then held constant until about 1987, after which it resumed its ascent.

Labor economists attribute the decline in male labor force participation among those 55 to 64 years to early retirement--an option not chosen, apparently, by females in this age range.

Unemployment by Gender

The unemployment rate data offer some additional insights into the changing fortunes of men and women in the workforce. Mainly, unemployment rate data track the business cycle: unemployment rates increase when the economy contracts, and unemployment rates decrease when the economy expands. This fluctuating pattern is shown in the chart on page 17 for men and women over the last five decades.

More interesting for our purposes here, however, is the *difference* between male and female unemployment rates over the last 50 years. Historically, the unemployment rate for females was greater than the rate for males, and in fact the female unemployment rate compared to the male rate increased between 1948 through 1980. Between the mid 1960s and 1980, the unemployment rate for women averaged about 1.5 percent above the rate for men.

Then, in 1981 this historical pattern suddenly reversed. Between 1981 and 1998 the unemployment rates for men and women have been nearly identical. Remember that in 1980 and again in 1981-82 the economy suffered two short but nasty economic recessions--the "Volker recessions" induced to constrain inflationary pressures in the economy. Whatever employment advantage men had enjoyed compared to women prior to this period was suddenly erased in 1981 and 1982, and has since not reappeared.

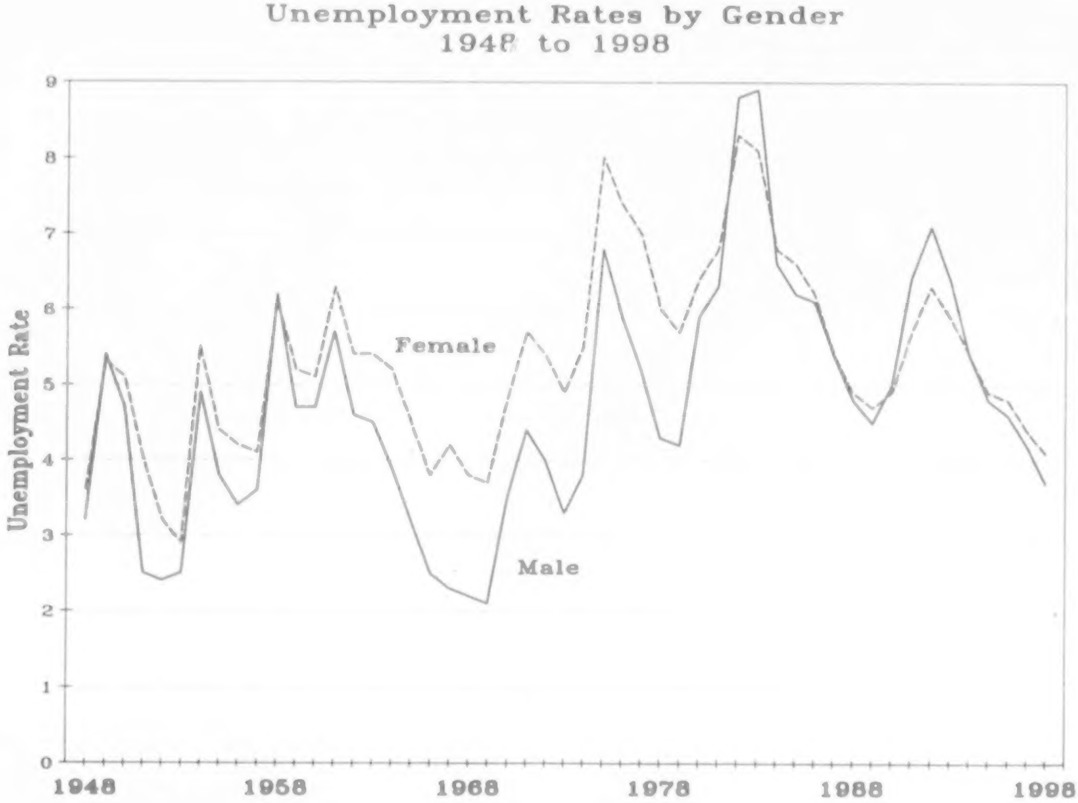
In fact during and following both the economic recessions of the early 1980s and again and more clearly in the early 1990s, the male unemployment rate rose above the female unemployment rate. Women have become more successful than men at navigating the recession phase of the business cycle over the last two decades.

Conclusions

This analysis set out to examine labor market data for men and women over the post World War II era. The two main reasons for examining these data from the chosen perspectives were to: 1) examine causes of the growing disparity between young males and females in educational participation and attainment, and 2) to examine what in the lives of adult men and women was happening to their employment patterns that could help explain these differing educational experiences.

What these data suggest is a growing difference in the employment experiences of adult men and women. Men hold dominant employment positions in industries that represent a shrinking share of employment, especially manufacturing. Women hold (and have come to hold) dominant employment positions in industrial sectors--public and private service--that represent growing shares of employment by industry.

The difficulties faced by men in accommodating this transition from goods-producing industrial employment to service-producing jobs is reflected in their declining labor



force participation rates, particularly early retirement from the labor force. It is also reflected in the loss of their employment advantage as measured by unemployment rates that occurred during the economic recessions of the early 1980s. When the economy later recovered, the lost advantage compared to women was not regained.

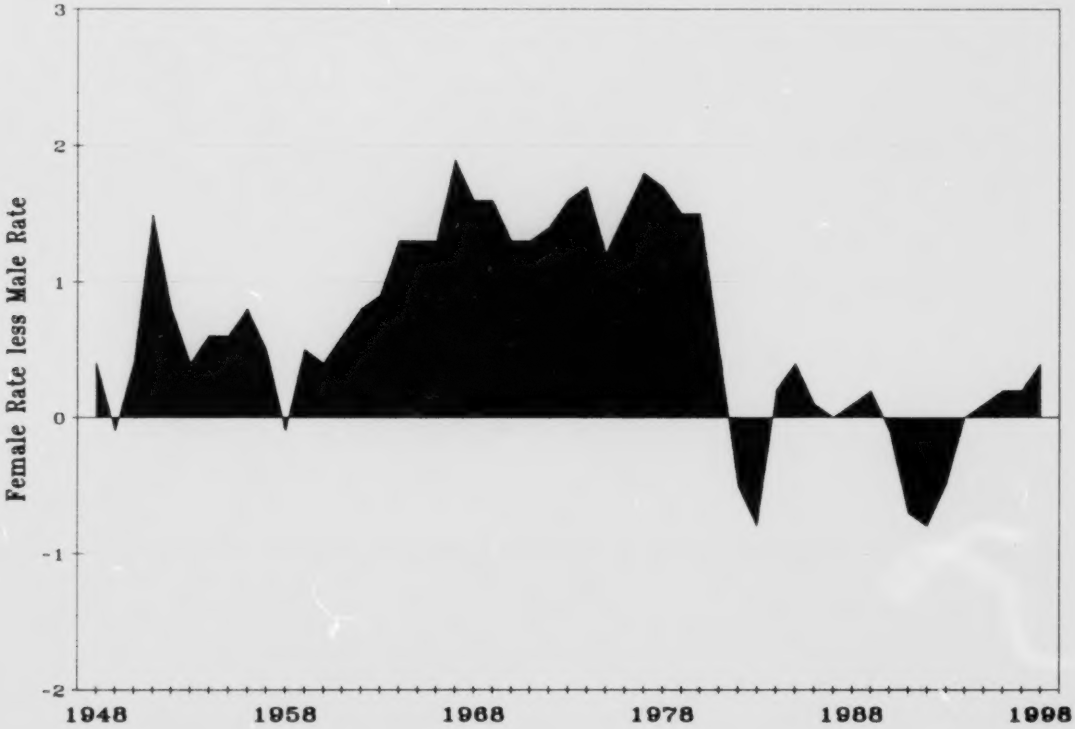
There are two conclusions to reach from these data. The first is that men are not changing as fast as is the pace of industrial employment change, and women are. The shift from a goods-producing industrial employment base to a service-producing industrial employment base appears to disfavor men and favor women. We cannot help but admire the progress of women at the same time that we worry about the lack of responsiveness of males to the changing employment pattern across industries.

The second conclusion we reach is that men are disengaging from their traditional economic roles rather than change with the economy. We have seen this in other data as well. Men are disengaging from their traditional family roles as more children are being raised in female-only households. Men are also disengaging from their civic roles as voters at a much faster rate than are females. These changes in the lives of men more than likely are affecting the lives of their children, particularly their sons.

Given the escalating educational attainment requirements of the economy generally and employment in particular, women are clearly far ahead of men in preparing themselves for the requirements of the emerging economy. Males appear dazed and confused by these changes, and are not making educational preparations to respond to these changes. Two very different futures for the genders are emerging from these employment data, and the future for males is far bleaker than it is for females.

There are alternative worlds beyond postsecondary education for males, notably sports, the military and the computer worlds where men enjoy a high degree of success. But to some degree, education seems to precede or even be an intrinsic part of these more successful male worlds. The military offers one of the premier postsecondary education and training programs in the country, and the computer world requires continuous daily education to keep up. But somewhere along the way, males are losing touch with the traditional world of K-12 and especially higher education. We must be concerned.

Difference between Unemployment Rates by Gender
1948 to 1998



Hope and Lifetime Learning Tax Credits by State

On August 5, 1997, President Clinton signed into law the Taxpayer Relief Act of 1997. This law created the federal Hope and Lifetime Learning tax credits. These tax credits have been claimed by taxpayers for the first time on their 1998 federal income tax returns filed earlier this year.

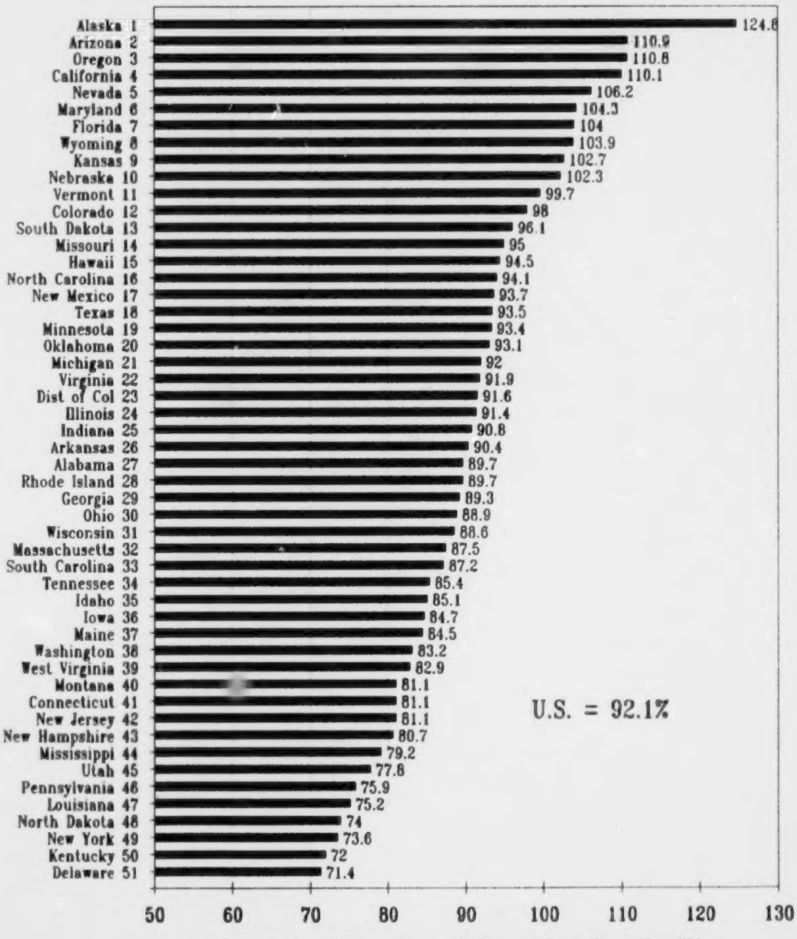
These tax credits inaugurate a new era of federal student financial aid. These tax benefits are not needs-tested, as are all Title IV financial aid program benefits. Moreover, these tax credits for the very first time at the federal level deliberately exclude poor people from program benefits. (This program is modeled on Georgia's HOPE Scholarship Program which was the first government program to exclude poor people from eligibility.) This program was not enacted in the open political processes of the Higher Education Act reauthorization, where its design could have been subject to public scrutiny and comment, but instead it was negotiated behind closed doors.

The Hope tax credit is available to students for their first two years of postsecondary education or training. The credit may be claimed for enrollment after December 31, 1997. The tax credit is the sum of the first $1000 of tuition and fees, plus 50 percent of the second $1000 of tuition and fees, for a total up to $1500 per year for two years. The tuition and fee base for tax purposes is less grant financial aid received. The Hope tax credit is not refundable, so people who do not make enough to pay federal income taxes do not qualify. The tax credit is phased out for joint tax filers with incomes between $80,000 and $100,000, and between $40,000 and $50,000 for single filers. When it is fully phased in the Department of Education estimates that 5,900,000 filers will be able to claim credits totaling $5.6 billion each year.

The Lifetime Learning tax credit is targeted on college juniors, seniors, graduate students and working adults pursuing postsecondary education to upgrade their skills. The tax credit consists of 20 percent of the first $5000 of tuition and fees, and after 2002 this will go up to $10,000. The tax credit is available for tuition and fees minus grant assistance paid for postsecondary enrollment after June 30, 1998. Income phase-outs are similar to the Hope tax credit. When phased in the Lifetime Learning tax credit is expected to be used by 7,200,000 filers and cost $4.1 billion per year.

The total tax credit program is expected to reach 13,100,000 beneficiaries and cost $9.7 billion

Ratio of Hope and Lifetime Learning Tax Credit Recipients to Higher Education Enrollments by State



annually when fully implemented.

The state distribution of Hope and Lifetime Learning tax credits has been estimated and is available on the internet at: http://www.ed.gov/inits/HOPE/taxbenefits.html

The published data are quite spectacular--almost unbelievable. There were 14.2 million students enrolled in higher education in the fall of 1996, according to the National Center for Education Statistics. The Department of Education estimates that there will be 13.1 million beneficiaries of these tax credits when fully phased in. That suggests that about 92 percent of those enrolled in higher education could be tax beneficiaries of the Hope and Lifetime Learning tax credits. No other federal program has ever provided such broad benefits (largely because they could not demonstrate financial need for them). Of course the tax credits are available to postsecondary students not enrolled in higher education. But the promised coverage is certainly spectacular.

When we compare estimated tax beneficiaries to higher education enrollments by state, the results are even more interesting. In ten states there will be more tax beneficiaries than there are students enrolled in higher education. (IRS take note!) Alaska leads the list: there were only 28,846 students enrolled in higher education in **Alaska** in the fall of 1996. But the Department of Education estimates that there will be 36,000 Hope and Lifetime learning tax credit beneficiaries from there when the tax credits are fully implemented. Other states projected to have more beneficiaries than students are **Arizona, Oregon, California, Nevada, Maryland, Florida, Wyoming, Kansas and Nebraska.**

Some states will benefit much less from these tax credits than those listed above. In **Delaware, Kentucky, New York** and **North Dakota** less than three-quarters of the higher education enrollment will receive these tax benefits.

More likely than the scenarios outlined here, no one will know how these tax credits will be used by federal income taxpayers for several years to come. The Internal Revenue Service takes years before it completes its analyses of each year's crop of federal income tax forms and publishes the results. The IRS is also known for protecting its data from outside analysis, unlike the relatively open record-keeping and reporting of higher education data that is readily available for the asking. Stay tuned

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 84 **Oskaloosa, Iowa** **June 1999**

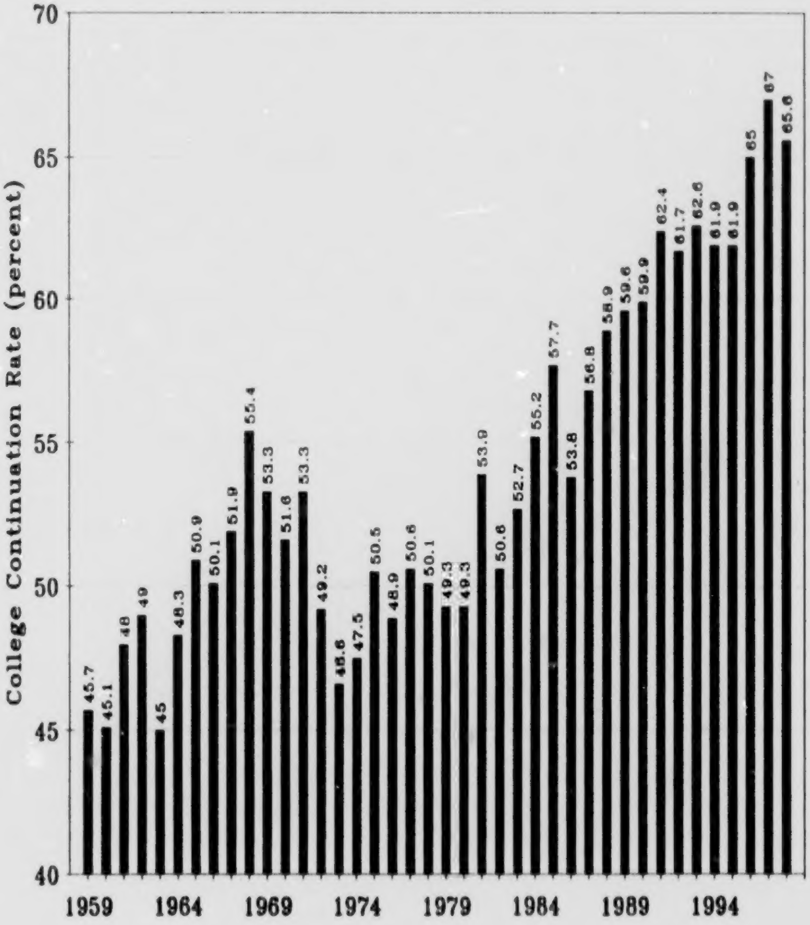
College Continuation Rates for 1998 High School Graduates

During the 1997-98 school year, 2,810,000 students graduated from high school in the United States. This is the largest number of high school graduates since 1984. Between 1984 and 1998, the number of high school graduates declined to a low of 2,276,000 in 1991, then increased every year thereafter. The National Center for Education Statistics projects steady annual increases to 3.1 million by 2008.

Nearly two-thirds--1,844,000--of all students who graduated from high school during the 1997-98 school year were enrolled in college by October of 1998, according to data recently reported by the Bureau of Labor Statistics. This is the second largest freshman class enrolling directly out of high school in our history.

The 1998 college continuation rate of 65.6 percent is below the 1997 rate of 67.0 percent, and is the second highest on record. But more important, this continues a long term increase in the college continuation rate for recent high school graduates that began about 1974 when the Pell Grant program first became available to college freshmen.

College Continuation Rates
for Recent High School Graduates
1959 to 1998



Over the 40 years that the Bureau of Labor Statistics has reported these data, this data source has come to provide important early data on the transition from high school into college pursued by most of those who eventually earn bachelor's degrees from college. These data are best describe those who are most likely to ever earn a bachelor's degree from college by: 1) enrolling in college directly after high school (100 percent did), 2) on a full-time basis (91 percent did) and 3) enrolling in a four-year college or university (63 percent did).

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While much of what we gleaned from and report here extends well-established trends, there are a few highlights worth noting.

- The progress of black high school graduates compared to whites directly into college is stunning. From 38 percent of recent black high school graduates being enrolled in college in the fall of 1983, the 1998 rate has climbed almost steadily to about 61 percent in 1998.
- The progress of female high school graduates compared to males is equally stunning. Between 1959 and 1998, while the male college continuation rate increased by 8.2 percent, the rate for females increased by 30.5 percent.
- Hispanics continue to lag behind the progress of other groups in pursuing collegiate education after high school.

These and other findings are summarized in our analysis of the recently released data from the Bureau of Labor Statistics. This year's report focuses exclusively on the transition from high school directly into college. Last year's report (OPPORTUNITY #71) also included analyses of recent high school dropouts and labor force participation of recent high school dropouts and graduates, all disaggregated by gender and race/ethnicity.

The Data

The information used in this analysis has been collected by the Census Bureau in the Current Population Survey since 1959. The data are analyzed and reported first by the Bureau of Labor Statistics. These data are later reported in more detail by the Census Bureau in its P20 reports on school enrollments.

The 1998 data appear in a news release from the Bureau of Labor Statistics "College Enrollment and Work Activity of 1998 High School Graduates" (USDL 99-175) dated June 25, 1999. This news release is available from the BLS website at: http://stats.bls.gov/newsrels.htm

The data reported by BLS were collected in the October 1998 Current Population Survey (CPS) by the Census Bureau. This is a nationally representative sample of about 50,000 households. The CPS is a basic data collection tool for information on the labor force, employment and unemployment. In October the education supplement gathers additional data from households on school enrollment of household members. Data are gathered on the school enrollment status of persons between 16 and 24 years of age in the civilian noninstitutional population. These data are collected during the calendar week that includes the 12th of the month.

High School Graduates

Tracking high school graduates is like following a pig through a python. The current story begins during World War II, with young men at war overseas and families deferred.

In 1945 there were 2.9 million babies born in the U.S. By 1950 this had jumped to 3.6 million, and the number continued to grow to a peak of 4.3 million by 1957. Then, exhausted, women slowed down and the annual number of births declined to 3.1 million by 1975. When the children of the first wave reached childbearing age, the annual number of births began rising again to a second peak of 4.2 million in 1990 and has since dropped back to about 3.9 million annually.

Of course, 18 years after birth these babies become high school graduates and candidates for college enrollment. So the babies born in 1945 became 18 in 1963. Between 1963 and 1965 the

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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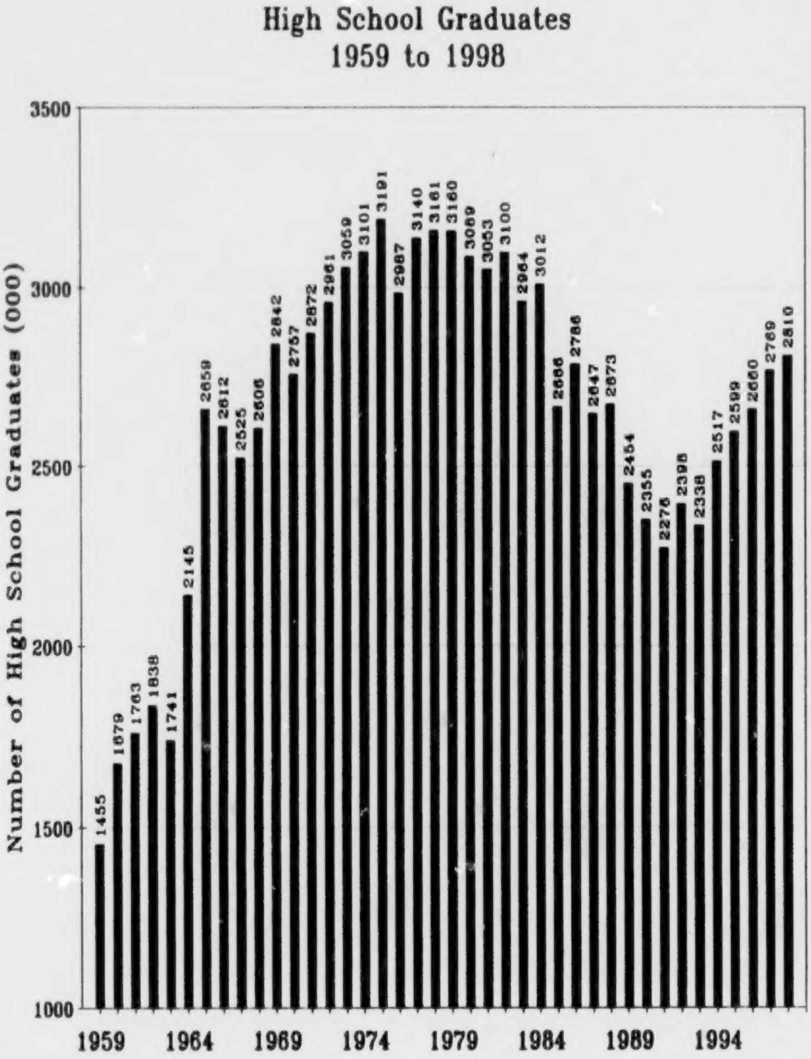
umber of high school graduates creased from 1.7 to 2.7 million. It ontinued on upward to a peak of 3.2 illion in 1975 before dropping back a low of 2.3 million 1991 before suming growth to the current 2.8 illion level in 1998. This number ill continue to grow to 3.1 million by 008 according to projections by the ational Center for Education tatistics, then decline thereafter as the ig is digested by the python.

ver the last four decades--between 959 and 1998--the characteristics of e high school graduate population ave also changed.

- The proportion of high school graduates that are male has increased from 45.6 percent in 1959 to 51.7 percent in 1998.
- The proportion of high school graduates that are white has declined from 93.2 percent in 1959 to 79.3 percent in 1998. Between 1976 and 1998, the proportion of high school graduates that are non-Hispanic whites has decreased from 83.3 to 68.1 percent.
- Between 1976 and 1998, the proportion of high school graduates that are black has increased from 10.7 to 14.0 percent.
- Between 1976 and 1998, the proportion of high school graduates that are Hispanic (and may be of any race) has increased from 5.1 to 11.2 percent.
- Between 1976 and 1998, the proportion of high school graduates that are of other race--mainly Asian--has increased from 0.9 to 6.8 percent.



rojections of high school graduates y state are especially important ecause of the wide variations between tates, and because the composition of uture high school graduate classes ill vary significantly from state to tate. The projections of high school raduates by state (1998) highlight hese differences.

- The number of high school graduates is projected to increase the most in the west (+31 percent) and least in the north central states (+10 percent) between 1994 and 2008.
- The shift from non-Hispanic whites to other racial/ethnic groups is projected to continue, more so in some states than others.

The WICHE report *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1996-2012* is available for sale by calling (303) 541-0200.

College Freshmen

Out of high school graduates college freshmen are produced. In October of 1998 there were 1,844,000 college freshmen who had graduated from high school during the previous 12 months. This number is slightly below the previous year's number, but well above the numbers that averaged between 1.4 and 1.6 million between 1968 and 1993.

Of the total:

- Males were 49 percent of the freshman class in 1998, despite

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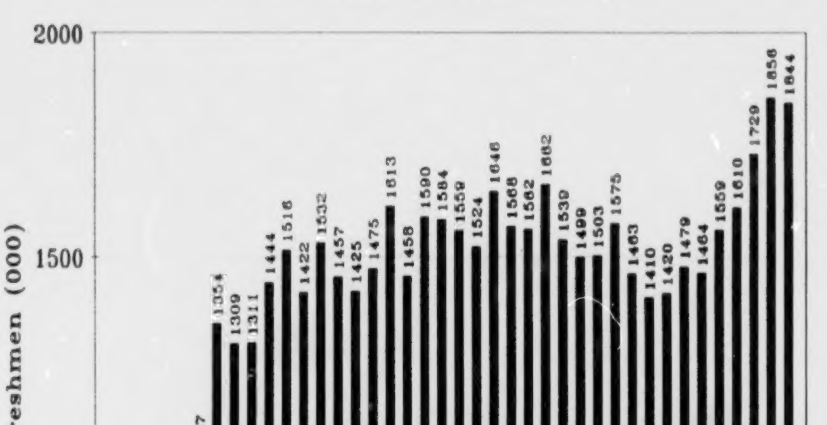


College Freshmen Who Were Recent High School Graduates 1959 to 1998

being 51 percent of the high school graduates. In 1959--the first year of the survey, males were 54 percent of the freshman class.

- Whites were 81 percent of the college freshmen, compared to 79 percent of the high school graduates in 1998. In 1960 whites were 95 percent of the freshman class.
- Non-Hispanic whites were 73 percent of the college freshmen in 1998, compared to 68 percent of the high school graduates. In 1976 non-Hispanic whites were 83 percent of the freshman class.
- Blacks were 13 percent of the college freshmen in 1998 compared to 14 percent of the high school graduates. In 1976 blacks were 9 percent of the freshman class.
- Hispanics were 8 percent of the freshmen in 1998 and 11 percent of the high school grads. In 1976 the were 5 percent of the college freshmen.
- Those of other race--mainly Asians--were 5 percent of the freshmen in 1998 and 7 percent of the high school graduates. In 1977 they were about 1 percent of the freshman class.

Full-time/part-time status. In 1998 90.8 percent of the freshmen coming directly from high school were enrolled full-time. Between 1959 and 1976 this proportion stood about 95 percent. Between 1997 and 1998 the full-time share has ranged between 90 and 92 percent.

Two-year/four-year colleges. These data have been reported just since 1991. In the first year, 60.1 percent were enrolled in four-year colleges. This proportion had increased steadily since then to 66.1 percent in 1997. In 1998 it dropped back to 62.9 percent.

College Continuation

Over the last 40 years, the number of college freshmen has not closely tracked with the live birth and high school graduate curve. College continuation immediately after high school is both voluntary and costly. Moreover, the labor markets for workers with different levels of education and training have changed.

For these reasons, we measure the *rate* at which high school graduates go on to college over time to describe trends and patterns in college attendance. This rate is calculated by dividing the number of college freshmen with a given characteristic by the number of high school graduates with that characteristic. These rates are calculated for each group, to facilitate comparisons between groups. These rates are also calculated for each of the last 40 years (where data were reported) to facilitate identifying trends buried in the raw data.

In 1998 65.6 percent of the recent high school graduates were enrolled in a collegiate institution. As shown in the chart on the first page of this issue of OPPORTUNITY, this was the second highest college continuation rate in the 40-year history of the BLS report on recent high school graduates.

Most important, it continues the strong upward trend to these rates since 1973 when the Pell Grant program was created.

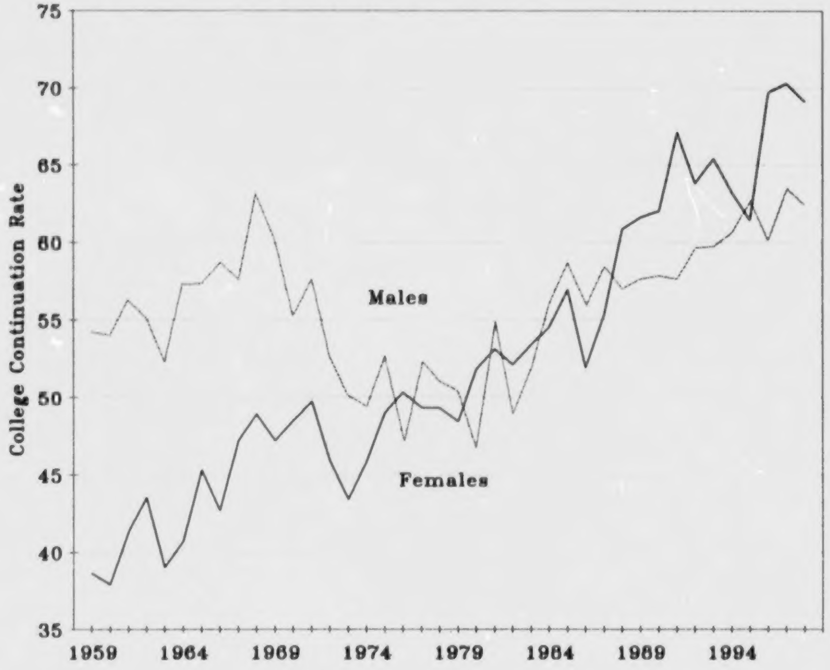
The strong upward trend to the college continuation rate since 1973 has overcome the decline in the numbers of high school graduates between 1979 and 1991. This has greatly dampened and largely offset the decline in college freshmen that would have occurred otherwise. If the 1998 high school class had enrolled in college at the 1973 rate, there would have been 1,309,000 college freshmen in October 1998 instead of the 1,844,000 that actually showed up. The increase in the college continuation rate alone added 535,000 freshmen or 41 percent to the class beginning study in 1998.

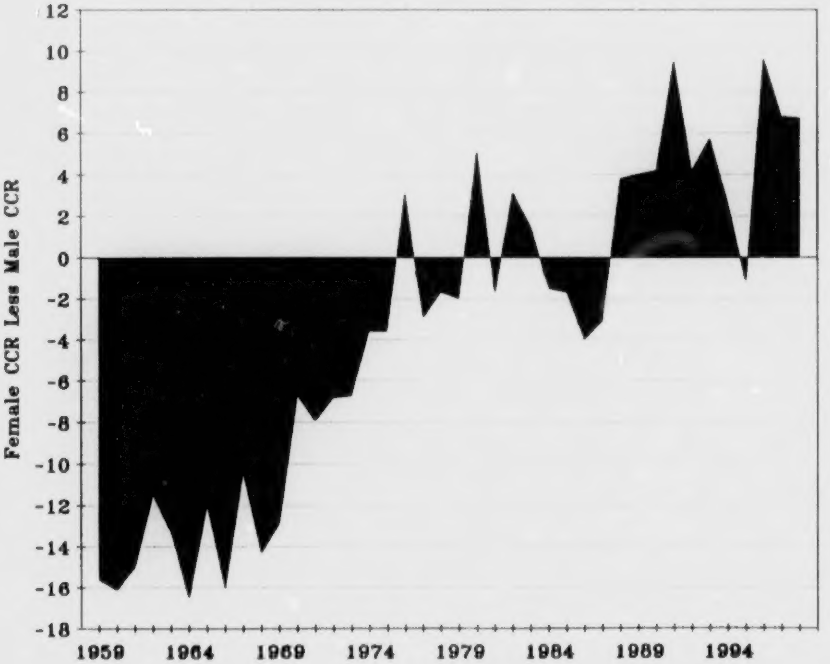
Gender. In 1998 the college continuation rate for males was 62.4 percent, and for females it was 69.1 percent. Both rates were down slightly from the record rates reached for both in 1997.

There were 906,000 male freshmen and 938,000 female freshmen. Although there were more male than female high school graduates in 1998, there were more female than male college freshmen by October.

Looking at college continuation rates for recent high school graduates by gender, it is difficult to believe that males and females are living on the same planet. Between 1959 and 1998, the male college continuation rate increased by 8.2 percent. During the same period, the rate for females increased by 30.5 percent.

Through the 1960s, the college continuation rate for females lagged the male rate by about 14 percent. Then, between 1969 and 1976, the female rate quickly caught up to and even briefly surpassed the male rate. Between 1976 and 1987 the rates were roughly similar. But beginning in


College Continuation Rates by Gender
for Recent High School Graduates
1959 to 1998


Difference Between College Continuation Rates by Gender
for Recent High School Graduates
1959 to 1998

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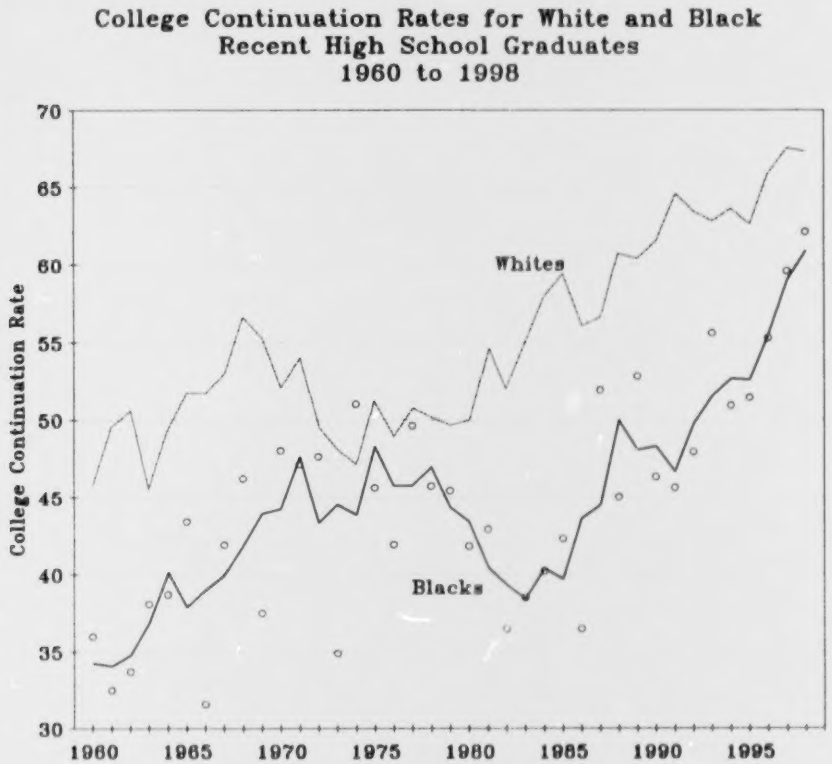
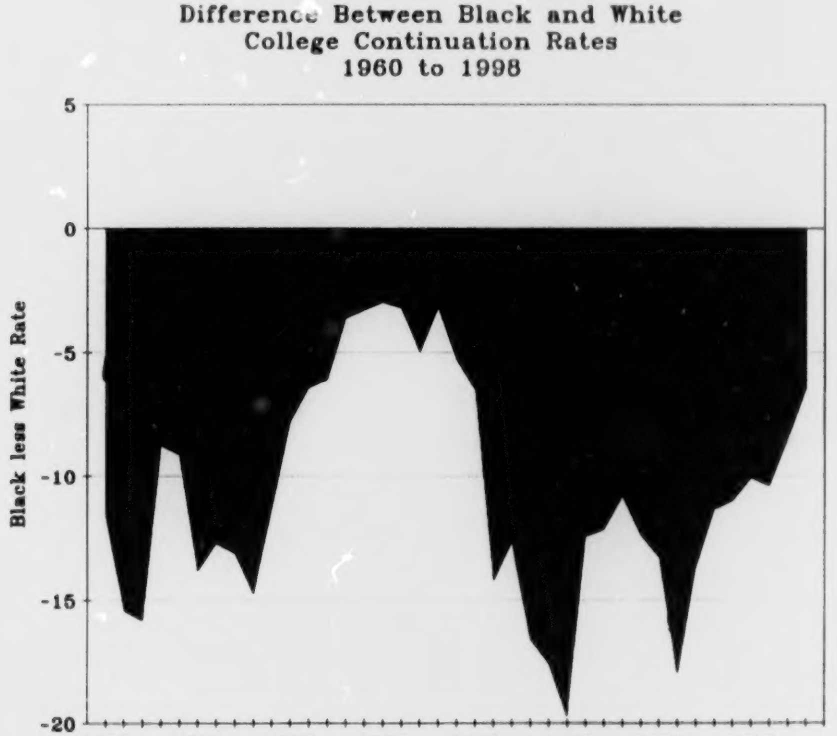


College Continuation Rates for White and Black Recent High School Graduates 1960 to 1998



Difference Between Black and White College Continuation Rates 1960 to 1998

1988 the rate for females has almos consistently surpassed the male rate by about 4 to 6 percent. In 1998 th female rate surpassed the male rate by near 7 percent.

Whites and blacks. To facilitat comparisons with a referenc population, the college continuatio rates for racial/ethnic minority group are each compared to the whit population. The groups compared t whites are respectively blacks Hispanics and other race (mainl Asians). Moreover, because th minority groups represent smal portions of the population, th standard errors of their estimates ar relatively large. Thus, we hav plotted both the college continuatio rates for these groups as well as three-year moving average lin through these data points to highligh the more significant underlying trend

In 1998 the college continuation rat for whites was 67.3 percent compare to 62.1 percent for blacks. The rat for whites was just slightly below th 67.5 percent rate for 1997, but reflect very substantial and nearly stead growth from 47.1 percent in 1974 Since 1960, when BLS first reporte these data, the college continuatio rate for whites has increased by 21. percent, or enough to add 479,00 whites to the 1998 freshman class.

The 1998 calculated colleg continuation rate for blacks was 62. percent--the highest on record. Thi eclipsed the 1997 rate of 59.6 percent the 1996 rate of 55.3 percent and th 1995 rate of 51.4 percent Particularly since about 1983 following a bout of profoun discouragement in the early 1980s blacks have made the greatest progres of any racial/ethnic group in colleg continuation after high school.

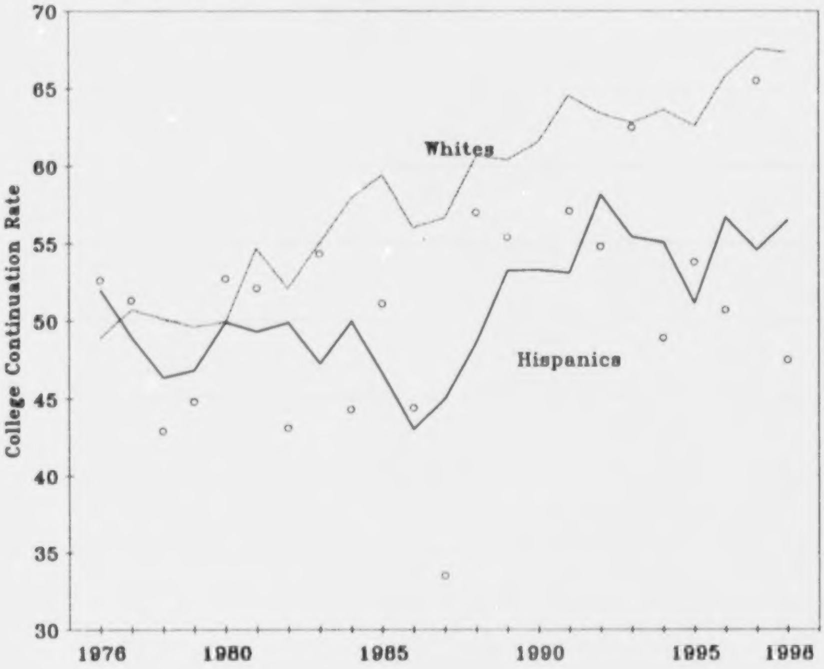
As a direct result of this progress, th gap with whites has close substantially, from 12 to 20 percent i he 1980s and early 1990s, to less than ' percent by 1998. This progress omes along with steady progress in lack high school graduation rates ompared to whites. The record of rogress for blacks compared to hites is one of the major success tories of educational opportunity over he last 15 years.

Vhites and Hispanics. A quite ifferent picture emerges for Iispanics. Here, Hispanic college ontinuation rates have moved from ssential parity with whites in the 970s to a substantial lag, well behind hites since 1985. This fall-back ccurred entirely between 1980 and 985. Once so far behind, Hispanics ave never regained that lost ground.

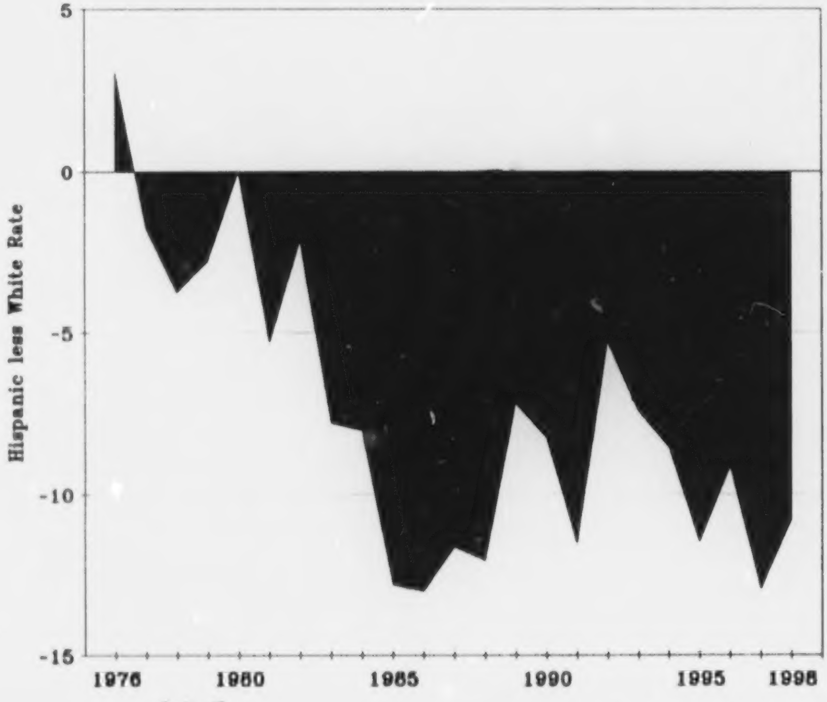
n 1998, while the white college ontinuation rate was 67.3 percent, the alculated rate for Hispanics was 47.5 ercent--the lowest rate since 1990. Jsing the moving three-year average f the calculated Hispanic rates, since 985 Hispanic college continuation ates have averaged about 10 percent elow the white rate. In 1998 Iispanic rate was about 11 percent elow the rate for whites.

This Hispanic problem of college ontinuation is greatly compounded by he prior and even more serious roblem of low high school graduation ates. The calculations to the right are f college freshmen divided by high chool graduates. But before Iispanics reach the status of high chool graduate, many more have lready left the educational pipeline. n 1998, for example, among persons 5 to 29 years of age, the proportion f the Hispanic population that was Iispanic and high school graduated vas 62.8 percent, compared to 88.1 ercent of whites and 87.6 percent for lacks. Over the last two decades, vhile blacks have made substantial rogress on high school graduation +10.3 percent), and whites have nade some progress (+1.3 percent),

College Continuation Rates
for White and Hispanic Recent High School Graduates
1976 to 1998



Difference Between Hispanic and White
College Continuation Rates, 1976 to 1998



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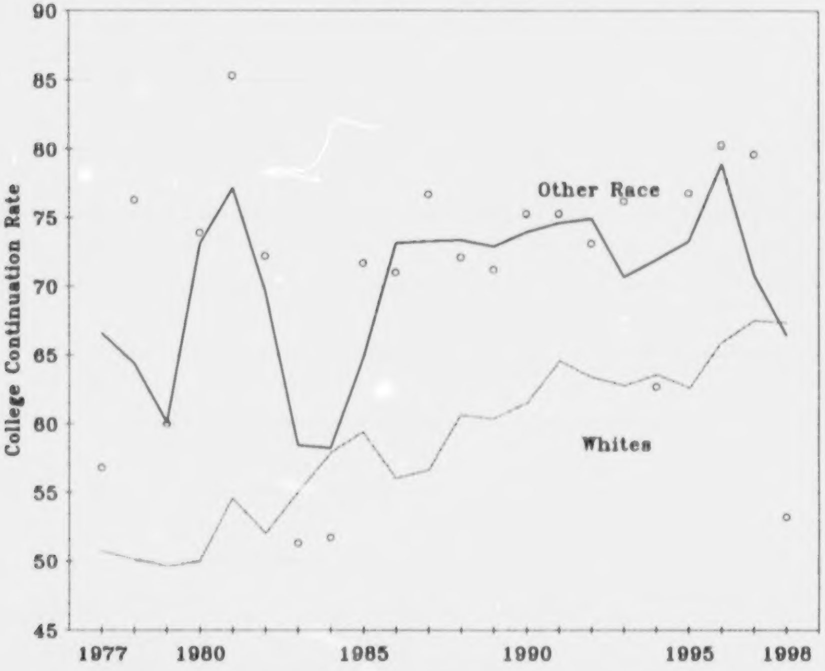
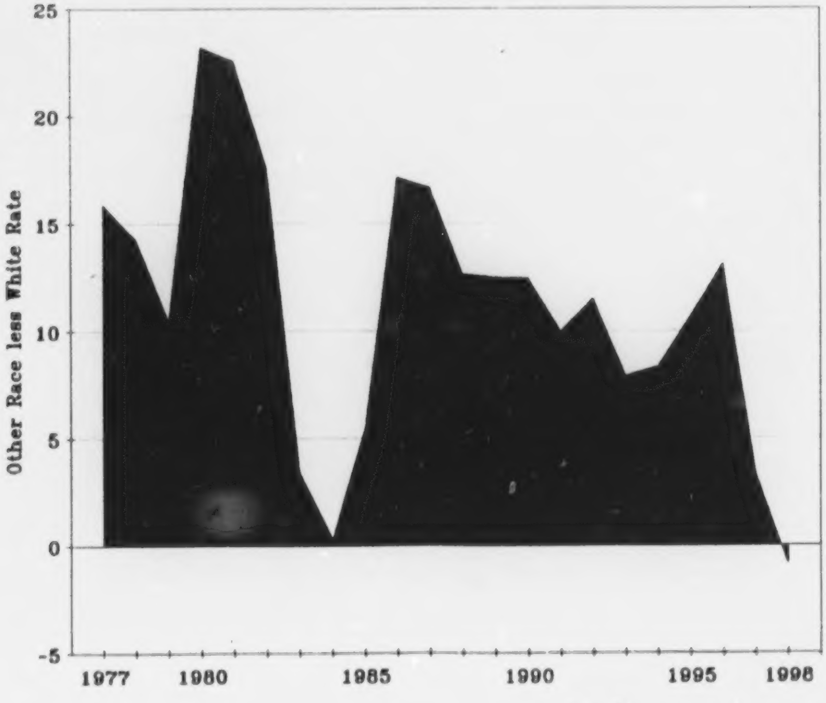
College Continuation Rates for White and Other Race (mainly Asian) Recent High School Graduates 1977 to 1998



Difference Between Other Race (mainly Asian) and White College Continuation Rates, 1976 to 1998



Hispanics with so much ground to make up have made relatively little progress (+6.2 percent).

Whites and Asians. The one population group that usually continues into college at higher rates than whites is a residual calculation from the data reported by the BLS. This is an "other race" category that includes Asians, American Indians, etc. It is calculated by subtracting whites and blacks from totals. It is dominated by the rapidly growing Asian population. It is also a small portion of the population, and Statistical sampling produces wide year-to-year fluctuations. In 1998 the college continuation rate for this group plummeted, from about 80 percent in 1997 to 53 percent in 1998. This likely a fluke since the calculated rate has hovered between 70 and 80 percent since 1985.

Different Worlds

These data make one wonder if we are all living at the same time on the same planet subject to the same economic pressures for greater educational attainment.

- Women have made steady and substantial gains in college continuation for 4 decades, while their brothers have not.
- Blacks have made steady and very substantial progress in college continuation (and high school graduation), particularly since 1985. The historic gap with whites is rapidly closing.
- Hispanics have fallen behind whites in college continuation, and lag far worse in high school graduation.

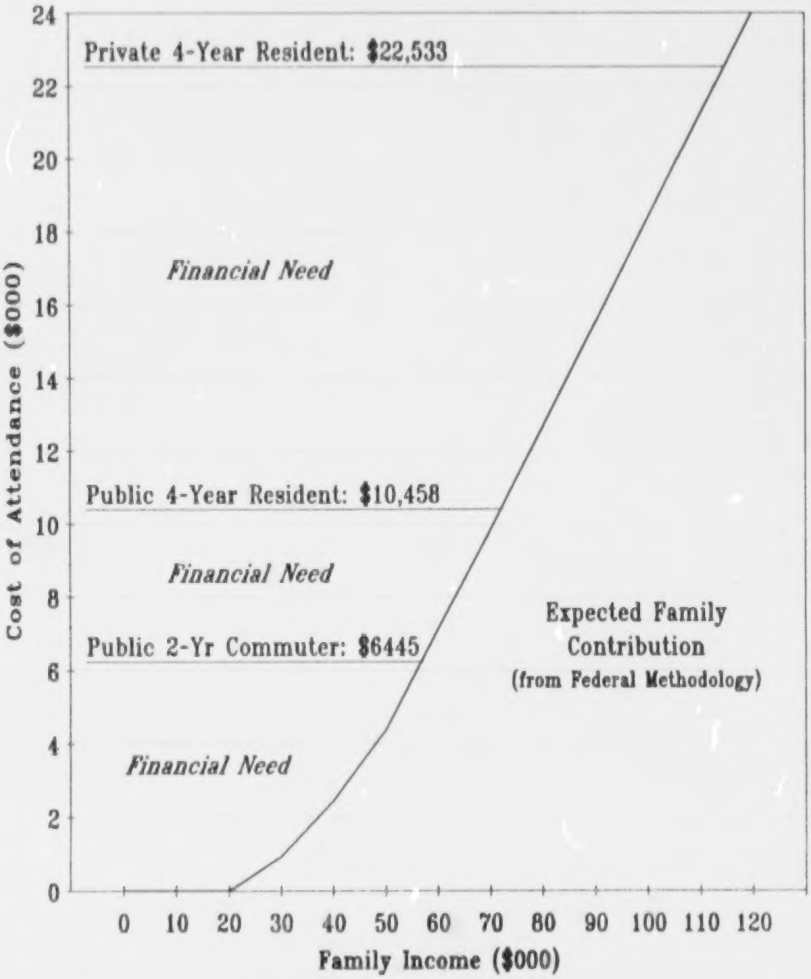
Rightly or wrongly, the labor market cares little for the causes of these differences in educational attainment. The job market will always select the best prepared and qualified for the best jobs available. Those who prepare will have access to the best jobs, and those who don't will get what is left over.

From need . . . *. . . to greed*

The Decline of Need-Based Student Financial Aid

1978 to ?

Financial Need by Family Income and Cost of Attendance
1998-99 Academic Year



In the post World War II era, we have moved through three eras of public policy focus on financial aid for college students. Each policy era has focused on a different group of college students. Each focus reflects different political times and perceived public needs to be addressed.

- *Those who deserve it.* After World War II the GI Bill created massive opportunity for higher education for returning soldiers who had sacrificed part of their youth and risked their lives to defend our national interests. A grateful nation (and one mindful of the inability of the labor market to absorb all of the returning veterans at once) offered financial incentives to attend college before returning to civilian and economic life.

- *Those who need it.* Beginning with passage of the Higher Education Act in 1965, the federal government initiated college student financial assistance based on demonstrated financial need. Congress affirmed this commitment and greatly expanded it in the 1972 Education Amendments with the creation of the Pell Grant program. All states eventually created their own state need-based grant programs for their own financially needy undergraduate students.

- *Those who want it.* More recently, those who have performed neither any national service to deserve financial aid, nor are able to demonstrate financial need for aid, have lobbied for financial aid benefits. This process began with the Middle Income Student Assistance Act, passed in 1978, which added Pell eligibility for students from middle income family backgrounds who still had financial need but were not from the lowest income backgrounds. But the real changes begin about 1986 with unsubsidized educational loans at the federal level. States began creating various college savings programs and now most have them. Then Georgia's huge HOPE Scholarship program was created in the early 1990s, first for middle income families and then added rich family eligibility all without any financial needs test. Now the federal government has enacted massive tax credits for families of college students, also without a needs test and that exclude low income students. And many states have, are, or will implement merit scholarship programs that have no needs test.

This analysis examines the gradual shift in federal, state and to some degree institutional financial aid policy from need to greed.

Financial Need

Financial need is a straightforward idea. It was developed originally by colleges and universities as a means of allocating limited institutional resources to help students attend college. Financial need was incorporated into federal higher education policy in the passage of the Higher Education Act in 1965, and has remained a prominent feature ever since. All states eventually developed their own state need-based grant programs, sometimes under the incentive of the federal State Student Incentive Grant program. To an important but declining degree, financial need still guides the allocation of most financial aid resources in the United States.

Financial need is illustrated here:

Cost of college attendance
- Expected family contribution
= Financial need

where:

- Cost of attendance includes tuition and fees, books and supplies, food and housing, transportation, personal and medical care, etc.
- The expected family contribution is determined by a federal formula--the Federal Methodology--that assesses family income and assets making allowances for size, number in college, age and other factors.
- Financial need is what is left, and is met with financial aid packages consisting of grants, scholarships, earnings and educational loans.

This model is founded on the belief that the family has the first level of responsibility for financing the college attendance costs of their own children. Only when family resources are insufficient to pay college attendance costs are federal, state and institutional resources made available to complete the college financing package.

The illustration of financial need is shown in the chart on page 9. National average costs of attendance to attend three major types of higher education are shown. For example, according to The College Board, the national average cost of attendance as a campus resident at a private 4-year college or university was $22,533 in 1998-99. At a public 4-year college or university, a campus resident faced a national average cost of attendance of $10,458. To attend a public 2-year college as a commuter, the national average cost of attendance was $6,445.

The expected family contribution from the Federal Methodology assumes a dependent student family case where there are 4 family members and one is enrolled in college full-time for nine-months. The expected family contribution from federal needs analysis is zero up to about $23,000 of family income. That is, for students from families with very low incomes, financial need equals costs of attendance--full-need.

Above about $23,000 of family income, the Federal Methodology expects the family to contribute something from its resources toward attendance costs. At $30,000 of family income, the EFC is $950. At $50,000 of family income the EFC is $4,375. At $80,000 of family income the EFC reaches $12,649. By $120,000 the EFC is $23,991.

The difference between college attendance costs and the expected family contribution equals the financial need of the student.

- For all students with EFCs of zero, need equals costs of attendance.
- For students attending public 2-year colleges, students will show some financial need up to about $55,000 of family income. Above that income level students will no longer be needy.
- For students attending public 4-year colleges or universities, students will show need up to about $70,000 of family income.
- For students attending private 4-year colleges or universities, need will exist up to about $115,000 of family income.

To meet the financial needs of students and their families, many federal, state, private and institutional programs of financial aid have been created.

We can document the shift in the focus of financial aid from those who need it to those who want it through data collection and reporting systems developed over the last several decades. This documentation illustrates who, when and by how much we have moved away from need-based student financial aid.

The Federal Shift

The proportion of federal student financial aid awarded on the basis of demonstrated financial need is shown in the chart on page 11. These data have been collected and published by The College Board in its basic reference publication *Trends in Student Aid.* The dollars awarded to students through federal need-based financial aid programs include: Pell, SEOG, SSIG, FWS, Perkins, ICL, sub-Staff and sub-FFELP. The dollars awarded to students through federal non-need-tested financial aid programs include: unsub-Stafford, PLUS, Unsub-FFELP, SLS, PLUS-FFELP, Social Security, Veterans, military, other grants and other loans.

Trends in Student Aid, 1998 (and for prior years). (1998). Washington, D.C.: The Washington Office of The College Board.

ax credits, savings incentives, ɛlaxations to middle income ɔntribution to EFC and some other rograms are not tabulated here, but one are needs-tested. Their inclusion ' and when these data become vailable from the Internal Revenue ervice and other sources will further educe the numbers shown here.

he broad patterns are clear.

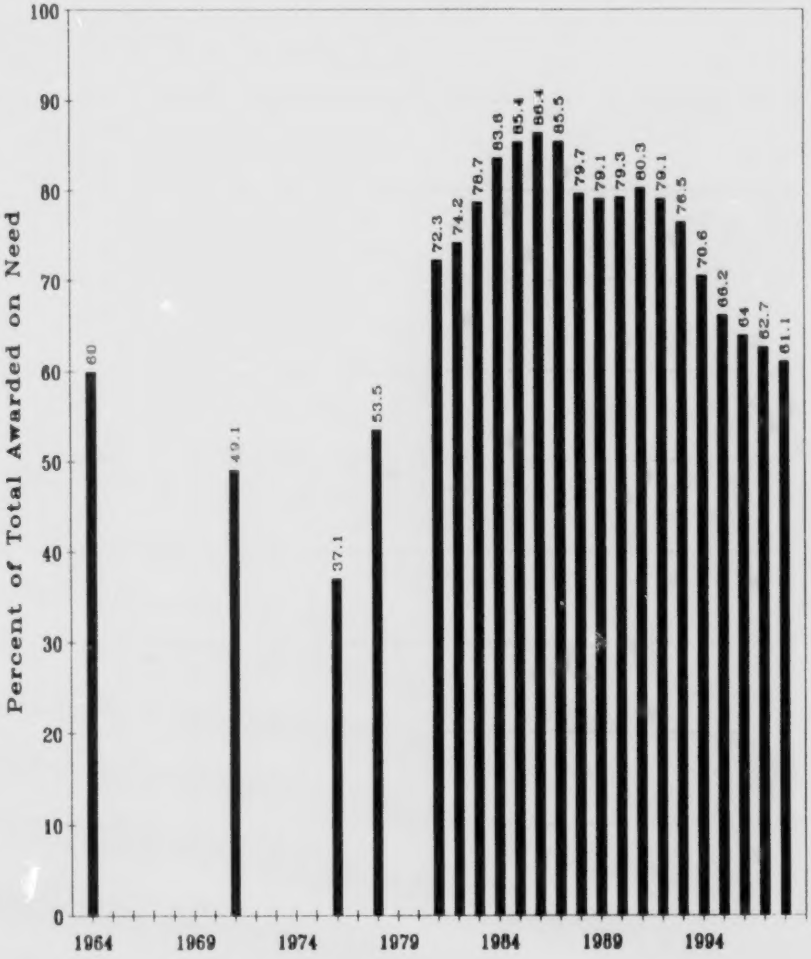
- The proportion of dollars awarded to students through needs-tested federal student financial aid programs declined from 60 percent in 1964 to 37 percent by 1976.
- After 1976 the need share then grew to a peak of 86 percent in 1986.
- Since 1986 the share of federal financial aid has declined to 61 percent in 1998.

he 1998 share is back to what it was ı 1964 just before Congress passed ıe Higher Education Act of 1965 and ıaugurated the need-based era of ederal student financial aid.

Intil the enactment of the federal Iope and Lifetime Learning Tax Credits, federal policy had remained learly focused on using scare federal esources to assist those who emonstrated financial need for that ssistance. Most of the program ollars added to the federal student aid rograms were not provided from ederal resources, but rather from rivate sources, through federal rograms, with only minimal cost to ıe federal budget.

he 1997 tax credits program has, of ourse, radically altered that picture, vith real federal costs (in terms of lost ederal revenue) directed to students vho may or may not be needy, but certainly whose financial aid benefits are not needs-tested for the federal program dollars they receive.

Federal Student Financial Aid Based on Need
1964 to 1998



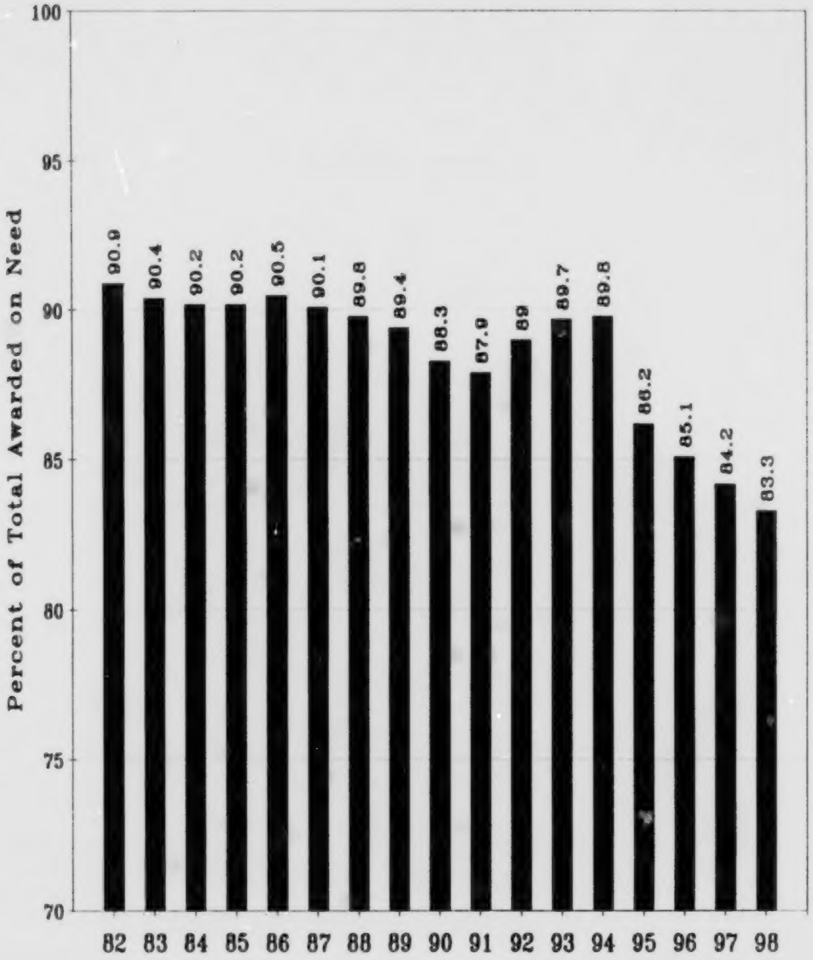
The State Shift

The proportion of state student financial aid resources awarded on the basis of financial need is shown in the chart on page 12. (As private higher education is quick to correctly point out, this does not include the very large state appropriations to public colleges and universities that permit these institutions to charge tuitions to students at about a third of production costs.)

These data have been collected and reported annually by the National Association of State Student Grant and Aid Programs.

DeSalvatore, K., and Hughes, L. (April 1999). *NASSGAP 29th Annual Survey Report, 1997-98 Academic Year* (and for prior years). National Association of State Student Grant and Aid Programs. Albany, NY: New York State Higher Education Services Corporation.

State Student Financial Aid Based on Need
1982 to 1998



The state financial aid programs are very diverse. They include need-based grants, scholarships, combinations of the two, work-study, and many state savings, prepaid tuition, tax credit and other programs not tabulated and reported in the NASSGAP survey report. Moreover, several states have begun rolling-back public institution tuition and fee rates in another large non-needs-tested subsidy.

Between 1982 and 1994, about 90 percent of state student financial aid program dollars were awarded on the basis of demonstrated financial need. The remaining ten percent included a mix of merit scholarships, benefits for descendants of deceased soldiers/policemen/firemen, loan forgiveness programs in designated high-need fields or locations, etc.

Then Georgia's HOPE Scholarship program came on line and began to alter this picture. By 1998 the proportion of state financial aid dollars awarded on the basis of financial need had dropped to 83 percent of the total. With many new state merit-based student financial aid programs recently enacted and others under consideration elsewhere, this shift away from need will continue for many years to come.

Another non-need tested form of financial assistance is being adopted by a few states: reducing public institution tuition and fee charges to students. **Massachusetts** has done this since 1996-97 on a gradual, across the board basis. Other states that have tried this partially include **Oklahoma, Tennessee, Louisiana, Montana, New Mexico** and **Alabama. California** tried this on a substantial scale in 1998-99, with public institution tuition and fee reductions from 4.0 to 7.7 percent. This fall **Virginia** will try this on a much larger scale with reductions of 20 percent.

The Institutional Shift

One of the least-told stories in student financial aid has been the growth in institutionally-funded aid. Partly this is due to the difficulty of measurement. But The College Board reports that between 1988 and 1998, while federal financial aid grew by 144 percent and state aid increased by 123 percent, institutionally awarded aid increased by 194 percent.

Institutionally awarded aid is a slippery fish when it comes to classification according to financial need. The college admissions office tends to promote institutional resources as merit scholarships. But by the time the college financial aid officer has completed financial aid packages for students, many of these merit resources have been used to meet the financial needs of students.

To examine distributional questions, we use data from a recent analysis of institutionally awarded student financial aid.

Reindl, T., and Redd, K. *Institutional Aid in the 1990s: The Consequences of Policy*

Connections. (undated). Washington, D.C.: American Association of State Colleges and Universities and Sallie Mae, Inc., Education and Student Loan Research.

ere Reindl and Redd retrieved data om the 1989-90 and 1995-96 ational Postsecondary Student Aid udies. They calculated the stribution of institutional need-based ants by family income levels ljusted for inflation in both public id private 4-year colleges and iiversities.

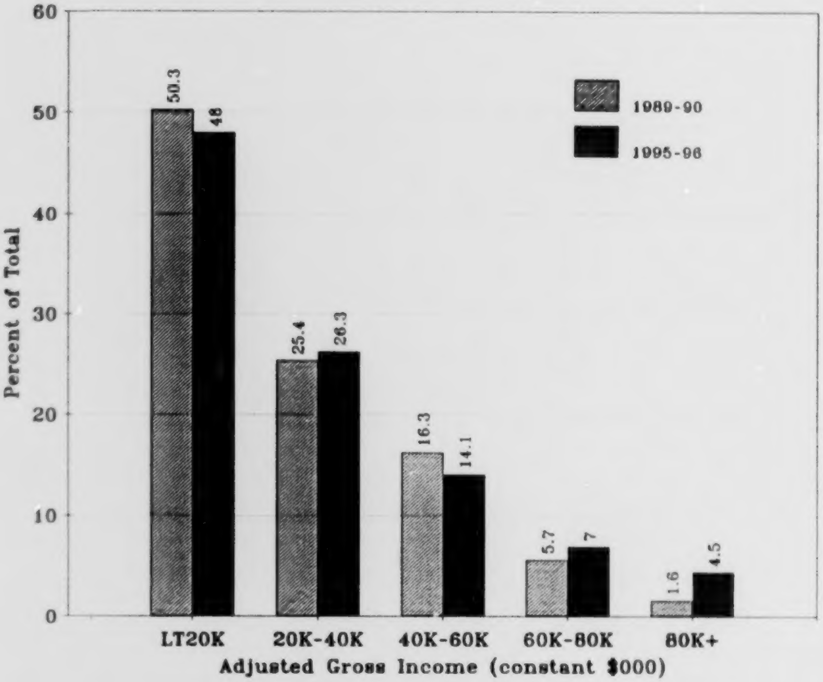
both public and private institutions, e share of need-based institutional ants allocated to those from families ith incomes below $20,000 per year eclined, while the shares allocated to udents from higher family income vels generally increased. In both ıblic and private institutions, the are of institutional grants allocated students from families with incomes oove $60,000 per year increased. If e allocation of institutional funds flects institutional priorities then this source shift reflects shifting stitutional priorities for funds under stitutional control from lower to gher family income students in the 990s.

eyond need-based institutionally varded grants there is non-need-ısed institutional grants. Using data om the two NPSAS studies cited ove, Reindl and Redd found that:

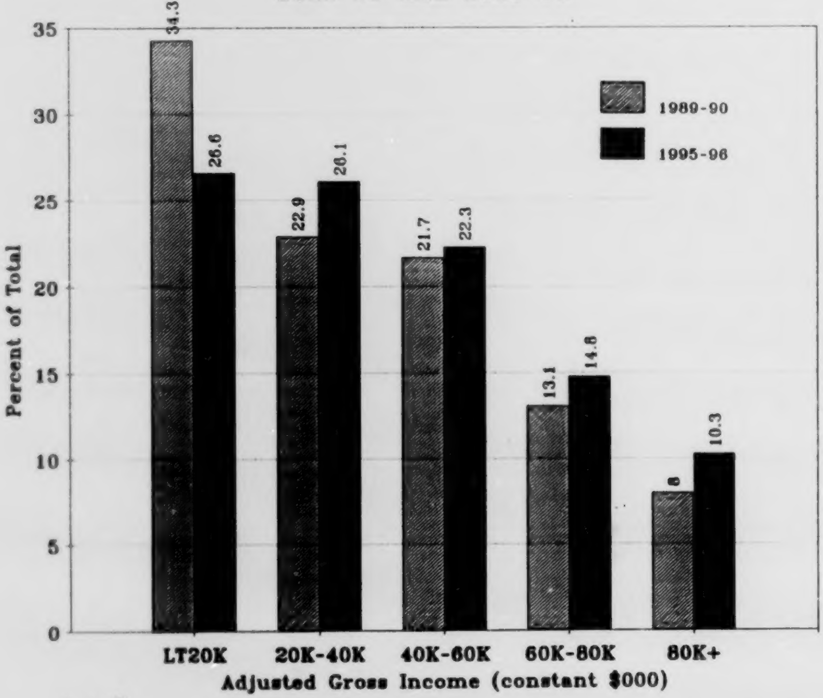
In public 4-year institutions, the proportion of undergraduates receiving non-need-based institutional grants remained constant at 4.5 percent of all students in both 1989-90 and 1995-90.

However, in private 4-year institutions, the proportion of undergraduates receiving non-need-based institutional grants increased from 14.5 to 16.8 percent over the same period.

Distribution of Need-Based Institutional Grants
by Adjusted Gross Income at Public 4-Year Institutions
1989-90 and 1995-96



Distribution of Need-Based Institutional Grants
by Adjusted Gross Income at Private 4-Year Institutions
1989-90 and 1995-96



Colorado
Average Unmet Financial Need per Aid Recipient
Full-time, Full-year Resident Dependent Undergraduate Students

Family Income	Student Count	Average Cost of Attendance	Average EFC	Average Financial Need	Average Gift Aid	Average Earnings	Average Loans	Average Financial Aid	Average Unmet Need
$0-9999	2,664	$12,374	$1,466	$10,908	$3,312	$559	$2,210	$6,081	$4,828
$10,000-19,999	3,474	10,926	1,107	9,819	3,415	502	2,258	6,475	3,343
$20,000-29,999	4,708	10,970	1,511	9,458	2,974	527	2,685	6,186	3,272
$30,000-39,999	4,621	11,086	2,711	8,375	2,262	493	3,119	5,874	2,501
$40,000-49,999	4,265	11,137	4,162	6,974	1,721	404	3,313	5,437	1,537
$50,000-59,999	3,911	11,205	5,971	5,234	1,393	369	3,511	5,273	-39
$60,000-69,999	3,448	11,580	8,548	3,033	1,272	320	3,783	5,376	-2,343
$70,000-79,999	2,709	11,663	10,694	970	1,073	263	3,887	5,222	-4,252
$80,000-89,999	1,978	11,919	13,216	-1,206	985	234	4,257	5,476	-6,682
$90,000-99,999	1,355	11,778	17,143	-5,365	941	225	3,962	5,129	-10,493
$100,000 +	2,699	11,621	22,627	-11,006	673	142	4,214	5,029	-16,035
	35,832								

Colorado
Average Unmet Financial Need per Aid Recipient
Full-time, Full-year Resident Independent Undergraduate Students

Family Income	Student Count	Average Cost of Attendance	Average EFC	Average Financial Need	Average Gift Aid	Average Earnings	Average Loans	Average Financial Aid	Average Unmet Need
$0-9999	13,850	$12,103	$633	$11,471	$2,646	$424	$3,852	$5,998	$5,473
$10,000-19,999	8,999	12,328	2,140	10,188	1,756	226	3,973	4,609	5,580
$20,000-29,999	4,723	12,734	3,144	9,590	1,627	140	3,757	3,835	5,756
$30,000-39,999	2,313	13,248	4,539	8,709	1,222	130	3,978	3,529	5,180
$40,000-49,999	1,175	13,526	6,579	6,947	741	173	4,517	3,436	3,511
$50,000-59,999	617	13,921	8,942	4,979	590	68	4,505	3,053	1,926
$60,000-69,999	296	14,016	13,038	978	399	34	4,814	2,461	-1,482
$70,000-79,999	134	14,466	15,862	-1.396	415	90	4,838	2,176	-3,571
$80,000-89,999	86	14,145	31,029	-16,884	292	29	5,017	3,440	-20,325
$90,000-99,999	45	16,032	26,474	-10,442	362	39	5,783	2,413	-12,856
$100,000 +	500	13,809	7,377	6,432	1,326	239	4,955	5,780	651
	32,728								

New Mexico
Average Unmet Financial Need per Aid Recipient
Full-time, Full-year Resident Dependent Undergraduate Students

Family Income	Student Count	Average Cost of Attendance	Average EFC	Average Financial Need	Average Gift Aid	Average Earnings	Average Loans	Average Financial Aid	Average Unmet Need
$0-9999	2,961	$10,916	$343	$10,574	$2,343	$463	$2,032	$4,838	$5,735
$10,000-19,999	1,327	9,088	659	8,429	3,002	628	1,639	5,269	3,160
$20,000-29,999	1,538	9,350	1,336	8,014	2,455	638	1,836	4,929	3,085
$30,000-39,999	1,054	9,396	2,508	6,888	1,519	555	2,222	4,295	2,592
$40,000-49,999	947	9,401	4,163	5,237	963	510	2,306	3,779	1,458
$50,000-59,999	735	9,475	6,584	2,892	699	485	2,466	3,650	-758
$60,000-69,999	511	9,474	8,332	1,142	774	490	2,463	3,726	-2,583
$70,000-79,999	329	9,317	11,113	-1,796	788	0	2,329	3,117	-4,912
$80,000-89,999	198	9,809	12,832	-3,023	681	484	2,533	3,699	-6,721
$90,000-99,999	118	9,780	17,593	-7,813	705	637	2,442	3,784	-11,596
$100,000 +	170	9,703	28,210	-18,507	657	527	2,318	3,502	-22,009
	9,888								

New Mexico
Average Unmet Financial Need per Aid Recipient
Full-time, Full-year Resident Independent Undergraduate Students

Family Income	Student Count	Average Cost of Attendance	Average EFC	Average Financial Need	Average Gift Aid	Average Earnings	Average Loans	Average Financial Aid	Average Unmet Need
$0-9999	9,331	$8,379	$417	$7,962	$2,037	$359	$1,948	$4,343	$3,619
$10,000-19,999	1,766	11,453	1,382	10,070	2,254	405	3,810	6,469	3,601
$20,000-29,999	786	11,346	2,070	9,276	2,096	231	3,834	6,161	3,115
$30,000-39,999	336	11,331	3,339	7,992	1,396	246	3,627	5,269	2,723
$40,000-49,999	157	11,201	5,198	6,004	452	109	4,755	5,316	687
$50,000-59,999	71	11,583	7,951	3,631	317	358	4,636	5,311	-1,679
$60,000-69,999	20	11,460	8,078	3,382	277	68	4,813	5,159	-1,777
$70,000-79,999	9	14,699	11,451	3,248	0	0	7,397	7,397	-4,148
$80,000-89,999	5	15,021	23,031	-8,010	0	482	4,018	4,500	-12,509
$90,000-99,999	1	10,131	17,857	-7,726	0	0	4,323	4,323	-12,049
$100,000 +	2	10,127	31,163	-21,036	0	0	4,063	4,063	-25,098
	12,698								

The Bottom Line: Meeting Student Financial Need

In 1965 the country set out on an ambitious course to substantially broaden opportunities for higher education for those with inadequate financial resources to pay for college without help. That plan targeted those from low income family backgrounds. The federal programs that resulted were focused on those with financial need for government assistance to finance their postsecondary educations. These programs were supported by econometric research that consistently found that price affected opportunity, and that financial aid reduced those financial barriers.

Government programs kept this focus on meeting the financial needs of students between 1965 when the Higher Education Act became law, and 1978 when the Middle Income Student Assistance Act was passed. After 1978, however, the focus gradually blurred. Little by little, more students were added to program eligibility. And when this was not enough, new programs were created that dropped the needs test altogether.

- At the federal level the blurring of focus occurred mainly in the substitution of loans for grants, liberalized needs analysis, unsubsidized educational loans and most recently in the creation of Hope and Lifetime Learning tax credits that exclude the poor.
- At the state level the retreat from need-based financial aid includes college savings programs--both prepaid tuitions and savings bonds, merit scholarship programs, tuition rate rollbacks and state tax credits.
- At the institutional level there has been a shift in institutionally awarded need-based grants from the lowest family income students to the highest family income students. And in private institutions that have the most at stake in need-based financial aid, there has been a substantial growth in the numbers of undergraduates receiving non-need-based scholarships in the 1990s.

The Colorado and New Mexico Higher Education Commissions have studied unmet financial need (shown on pages 14 and 15) among their own state resident, full-time, full-year undergraduate students. These studies make clear where unmet financial needs of students are greatest: those from lowest family income backgrounds for both dependent and independent students in both states.

The financial burden of unmet financial need is borne to a stunning degree by those least able to pay for college. Politicians: Listen up!

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OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 85 **Oskaloosa, Iowa** **July 1999**

Educational Attainment and Income for Persons, Households, Cities and States
1940 to 1998

Educational attainment largely determines income. This holds for individuals, families, communities, states and the country. In turn, income largely determines living standards, again for individuals, families, communities, states and the nation. Almost without qualification we can assert that more education leads directly to higher living standards and less education leads to lower living standards.

As shown in the chart on this page, the United States has made very little progress on educational attainment over the last quarter century. Between the ages of 25 and 29 years in 1998 we are only slightly better off than we were in 1976.

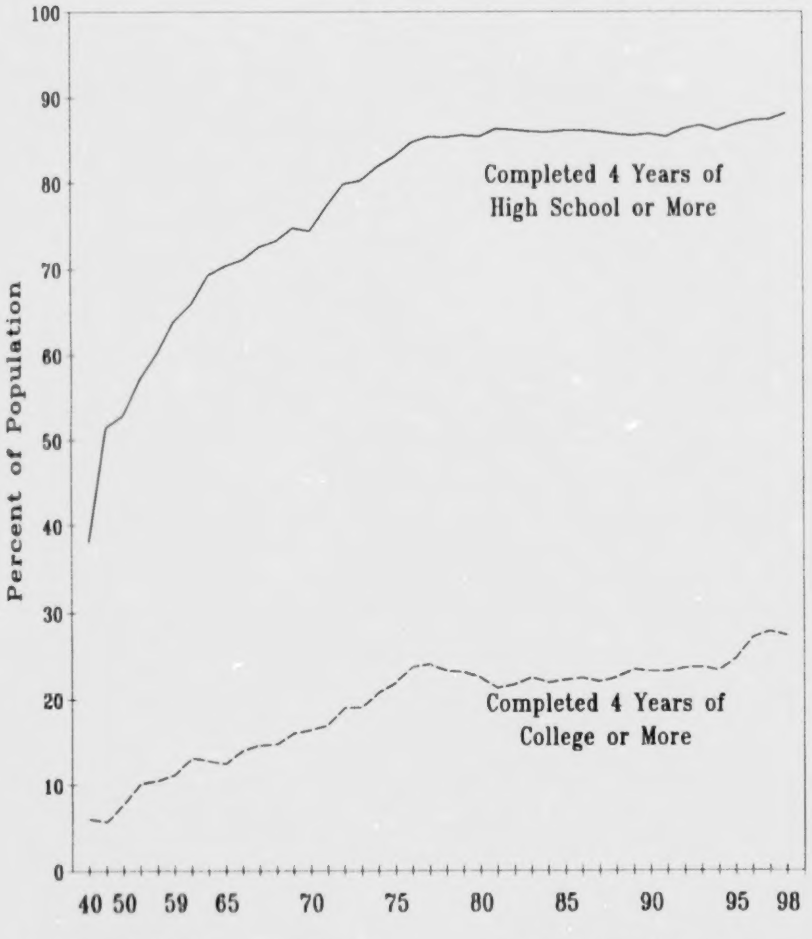
However, the aggregate data obscures important shifts in educational attainment among different groups within the total population. Notably:

- Women have moved well past men in both high school graduation and bachelor's degree attainment.
- Blacks have made significant progress in high school graduation compared to whites. The historic gap has been closed.

At the same time that some large groups have made educational progress, others have not. Notably:

- Males have made no progress, and indeed have lost historic gains on both high school graduation and bachelor's degree attainment.
- Hispanics lag far behind whites and blacks on high school graduation, and show little discernable progress over the last twenty-five years. Their bachelor's degree attainment rates have fallen well behind those of blacks in the 1990s.

Persons 25 to 29 Years Who Have Completed
High School or More and 4 Years of College or More
1940 to 1998



Increasingly all paths to decent living standards in the United States lead through education, particularly postsecondary education.

- Largely this course is set by economic growth and development that requires ever greater levels of educational attainment to match the needs of the labor force.
- But this course is also set by social policy decisions, such as the replacement of Aid to Families with Dependent Children (AFDC) with Temporary Assistance to Needy Families (TANF) that signal society's unwillingness to provide financial support to adults who are unwilling to try to support themselves.
- Moreover, whether Americans want the role or not, the United States plays the role of world economic and military leadership where national interests are projected and protected through national strength based on education.

Here we examine recent and historical data on educational attainment for persons, households, cities and states, and on the relationship between educational attainment and income. We use income as an aggregate measure of human welfare because it is so highly correlated with other welfare measures (see OPPORTUNITY #81 March 1999). In our materialistic society, income beyond survival needs opens up choices that offer quality to our lives. Educational attainment provides access to that measure of quality of life.

The Data

Most of the data examined in the following analyses are collected and reported by the Census Bureau. These data are collected in the monthly Current Population Survey (CPS), largely in education and income supplements to the basic labor market core of the CPS. The CPS is a monthly survey of a national sample of about 50,000 households. Thus, while extensive detail is not available from the CPS for states, some state data is available (such as educational attainment) and rich data on characteristics of individuals and families/households.

The data used here were substantially redefined by the Census Bureau in 1991. Prior to 1991 educational attainment was measured in terms of years of school completed. Beginning in 1991 educational attainment has been measured by highest degree completed. We have chosen to equate 12 years of school completed to a high school diploma, and four years of college to completion of a bachelor's degree. These definitions are not identical and the reader concerned about precision should follow our use and interpretation with appropriate caution.

In addition to the CPS data analyzed here, we also use data on state-level personal income to illustrate the relationship between education and income at the state level. These data are provided by the Bureau of Economic Analysis which is a sister to the Census Bureau within the U. S. Department of Commerce.

Other data resources used in our analyses are noted where employed.

Educational Attainment for Persons

The proportions of the U.S. civilian non-institutional population between the ages of 25 and 29 years that have completed high school and college through the bachelor's degree are shown in the chart on page 1.

Clearly, two broad eras of educational attainment are evident in these data. The first era spans the years between at least 1940 through about 1977. During this nearly four decade period, very large portions of the population

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Mission Statement

This research letter is founded on tw fundamental beliefs. First, sound public socia policy requires accurate, current, independent and focused information on the huma condition. Second, education is essential to th development of human potential and resource for both private and public benefit. Therefore the purpose of this research letter is to infor those who formulate, fund, and administe public policy and programs about the conditio of and influences that affect postsecondar education opportunity for all Americans.

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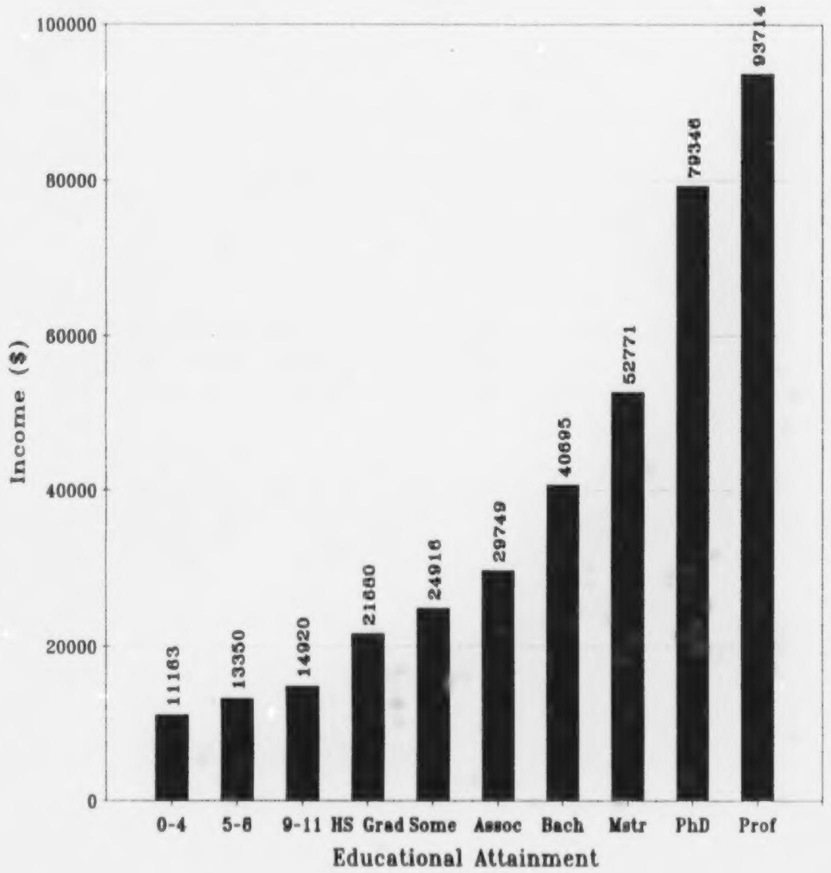
of 25 to 29 year olds increased their educational attainment. This was true at both the high school and the college graduate levels.

Between 1940 and 1977, the high school graduation rate among 25 to 29 year olds increased from 38.1 to 85.4 percent--an average of 1.27 percent per year. However, between 1977 and 1998 the high school graduation rate increased to 88.1 percent--an average annual increase of just .13 percent per year or a tenth of the annual increase in the prior period.

A similar pattern appears in the college completion rate data. Between 1940 and 1977, the proportion of the 25 to 29 year old population with a bachelor's degree increased from 5.9 to 24.0 percent--an increase averaging .49 percent per year. Then, between 1977 and 1998 the proportion increased by .16 percent per year or one third of the previous rate of increase.

The signs of renewed growth are weak but apparent in the 1990s. The high school graduation rate will not reach the national goal of 90 percent by 2000, but it will come close. The key will be definition: the public high school graduation rate has been declining since 1983, and the rate of decline has accelerated since 1993. But a growing share of the K-12 population has chosen to pursue the GED alternative high school certification. While the GED does not carry the same weight as a regular high school diploma in Armed Forces admission and job market performance, it nevertheless reflects a perceived need for certification among those who have chosen to drop out of high school. Significantly also, a growing share of those who pursue the GED do so planning further study.

Similarly, the bachelor's degree completion rate among the 25 to 29 year old population has shown signs of life. After remaining essentially unchanged from 1977 to 1994, there has been a modest uptick for the last four years. At last the large increases in college continuation rates in the 1970s, 1980s and 1990s have managed to overcome the long term decline in the four-year college completion rate for those who start college. If one ignores the messiness of increasing attrition in getting to the bottom line, then progress is evident.



Average Annual Income for Persons
18 Years and Over by Educational Attainment
1997

The importance of educational attainment to individual welfare is apparent in the above chart. As educational attainment increases so too does income. That income, in turn, is a major measure of individual welfare. Thus, increasing education leads to increased income which in turn leads to increased private welfare--virtually everyone's end goal.

High School Graduation

Our analyses of the educational attainment data follow the customary Census Bureau disaggregations of the population by gender and race/ethnicity.

Gender. In 1998 86.6 percent of the males and 89.6 percent of the females between 25 and 29 were at least high school graduates.

Broadly speaking, the rate of high school graduation for males and females have closely coincided over the last six decades. The rate for both rose sharply between 1940 and about 1977. And between 1977 and 1998 the rate of increase for both genders slowed greatly.

But on closer examination, the genders differ (as always) in interesting ways. Prior to the Vietnam War and again since the mid 1980s, the high school graduation rate among those 25 to 29 for females exceeded the rate for males. However, from about 1968 through 1979, males in this age range briefly were graduated from high school at higher rates than were females.

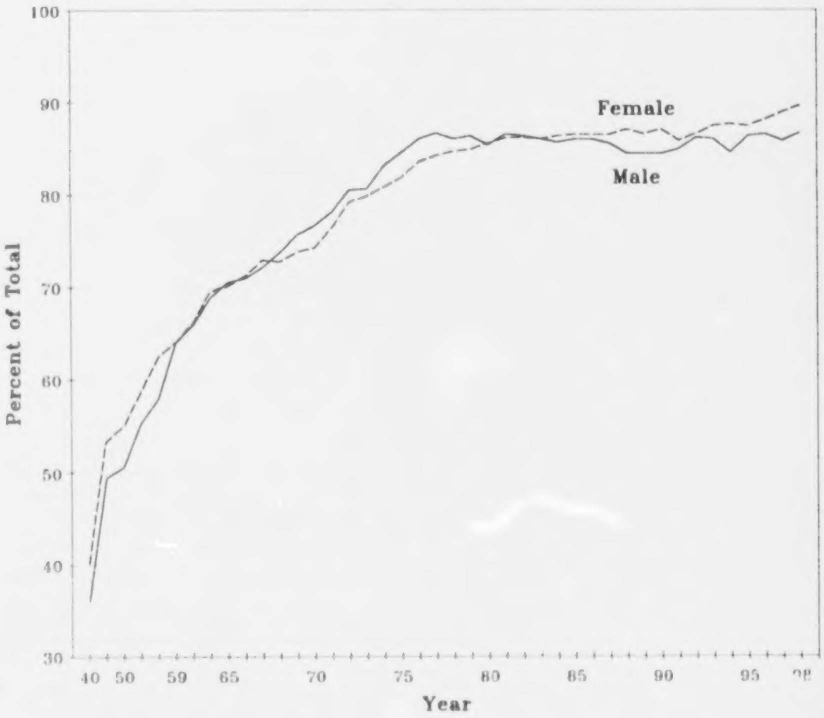
As the Census Bureau has pointed out, the Vietnam War and draft exemption for full-time college enrollment was a powerful incentive for males to both graduate from high school and continue their studies in college. Many thousands of young men took advantage of the educational opportunity, although motives were clearly mixed.

Another important difference between male and female high school graduation rates is the change over the last two decades. For males, the proportion of 25 to 29 year olds who were high school graduates in 1977 was 86.6 percent, and in 1998 it was again 86.6 percent. Over this period, males made no progress at all in high school graduation.

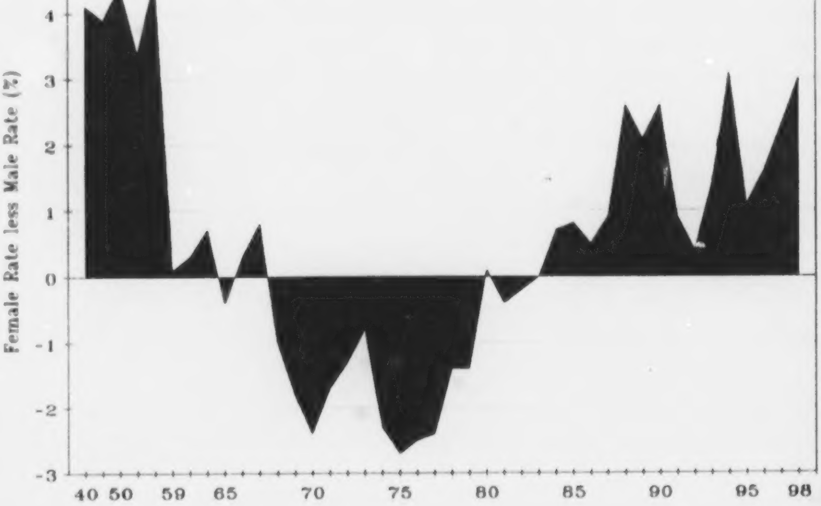
But during this same period, the high school graduation rate for females increased by 5.4 percent, from 84.2 to 89.6 percent. While females fell behind males during the Vietnam War, they reached parity with males in 1980 and have been pulling away from males since the mid 1980s.

Race/ethnicity. A similarly mixed story results from analysis of

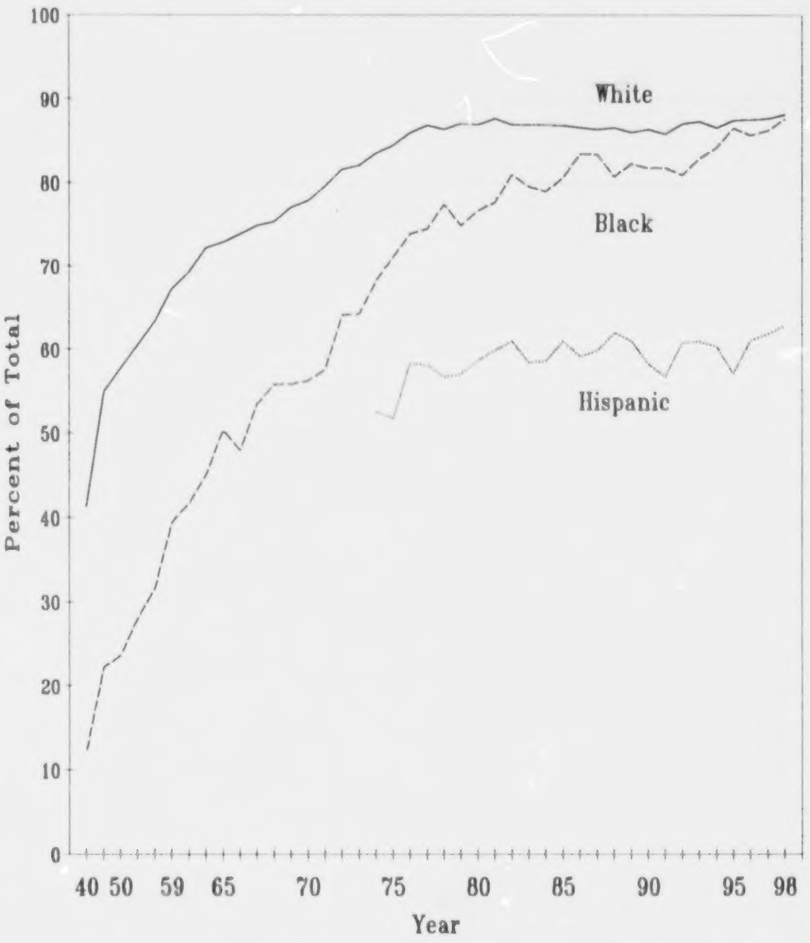
Persons 25 to 29 Years Who Have Completed High School or More by Gender 1940 to 1998



Difference Between Males and Females in the Percent of 25 to 29 Year Olds Who Have Completed High School Selected Years: 1940 to 1998



bachelor's degree attainment data by race and ethnicity. Generally most of the gains were made before the mid 1970s. The lone exception is for blacks whose continued progress since the mid 1970s is exemplary, particularly during a period of reduced financial aid grant assistance.



Persons 25 to 29 Years Who Have Completed High School or More by Race/Ethnicity Selected Years: 1940 to 1998

In 1998, among those 25 to 29 years olds, 88.1 percent of the whites, 87.6 percent of the blacks, and 62.8 percent of the Hispanics were at least high school graduates. Although not reported by the Census Bureau, one may deduce from their data that about 89.4 percent of those of other race (mainly Asians) were at least high school graduates in this same age range.

For whites, nearly all of the gains in high school graduation rates occurred before 1980. Between 1940 and 1980 the proportion of 25 to 29 years olds who were at least high school graduates increased from 41.2 to 86.9 percent. This was an increase of 45.7 percent, or about 1.14 percent per year. Then between 1980 and 1998, the proportion increased from 86.9 to 88.1 percent, or just 1.2 percent or 0.07 percent per year.

For blacks, its a different story. Between 1940 and 1980 the high school graduated rate increased from 12.3 to 76.6 percent. This was an increase of 64.3 percent, or an average of 1.61 percent per year. Then between 1980 and 1998 the rate increased further to 87.6 percent. This was a further increase of 11.0 percent, or an average of 0.61 percent per year.

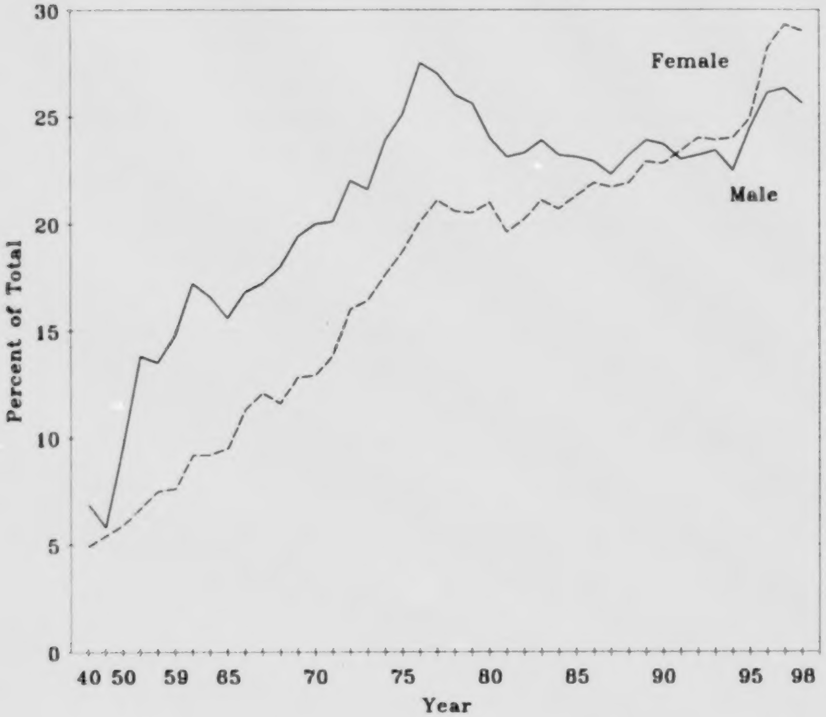
For Hispanics the data series begin more recently, in 1974. Between 1974 and 1980 the high school graduated rate among 25 to 29 year olds increased from 52.5 to 58.6 percent, or 1.02 percent per year. between 1980 and 1998 it increased further to 62.8 percent, an increase of 4.2 percent or 0.23 percent per year. Hispanics remain far behind whites, and since 1980 while the blacks have made substantial progress the Hispanic population has made less than half the progress made by blacks.

Through the attainment level of high school graduate, blacks have set the standard for measuring progress toward high school graduation, particularly since about 1980. Both whites and Hispanics have lagged the progress of blacks. The last two decades have been particularly difficult ones in social and educational policy development. Blacks have risen to the challenge.

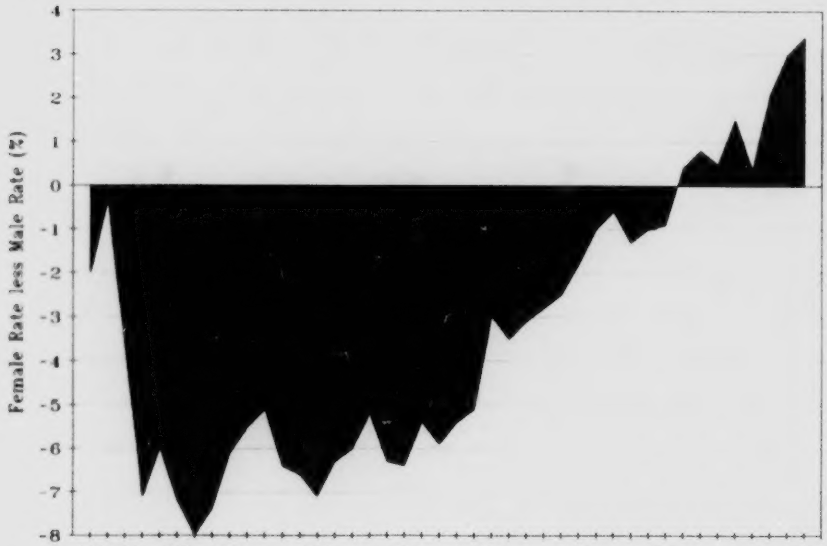
Bachelor's Degree Attainment

The changing economy generally and labor force in particular have placed a growing premium on the value of college educated labor compared to high school educated labor. Those who want to live their adult lives at comfortable or even affluent living standards have little choice but to get substantial and continuing amounts of postsecondary education or training.

Persons 25 to 29 Years Who Have Completed
4 Years of College or More by Gender
Selected Years: 1940 to 1998



Difference Between Males and Females in the Percent
of 25 to 29 Year Olds with Bachelor's Degrees
Selected Years: 1940 to 1998



The chart on the cover shows the proportion of the population ages 25 to 29 years that has completed four years or more of college (pre-1991) or a bachelor's degree or more (1991 to 1998). By 1998 this had reached 27.3 percent. Most of the growth occurred between 1940 and 1976, from 5.9 to 23.7 percent. Then between 1976 and 1994 this ranged between 21.3 and 23.7 percent. Not until 1995 did this proportion increase to 24.7 percent, and in 1996 through 1998 it has hovered between 27 and 28 percent.

Gender. In 1998 among those 25 to 29 years olds, 25.6 percent of the men and 29.0 percent of the women had earned at least a bachelor's degree from college. Since 1991 the bachelor's degree attainment rate for women has exceeded the rate for men.

Over the last six decades, the trends for men and women in bachelor's degree attainment have a vague similarity. But the more interesting story is in the difference.

For men the surge in bachelor's degree attainment occurred after World War II--clearly driven by the GI Bill incentives for college enrollment after military service. The proportion of 25 to 29 year old men with bachelor's degrees increased from 5.8 percent just after the War, to a peak of 27.5 percent in 1976. After 1976 this proportion declined to a low of 22.3 percent in 1987 and 22.5 percent in 1994. Since 1994 this proportion has increased to a peak of 26.3 percent in 1997, which is still below the attainment rates reached in 1976 and 1977.

For women a quite different picture emerges. Without the benefits of the World War II GI Bill to boost enrollment and attainment, women's gains have come later. And since these gains have continued after 1977, attainment rates for women have moved well beyond those of males.

Between 1976 and 1998, while the proportion of males between 25 and 29 with a bachelor's degree declined by 1.9 percent, the proportion for females increased by 8.9 percent.

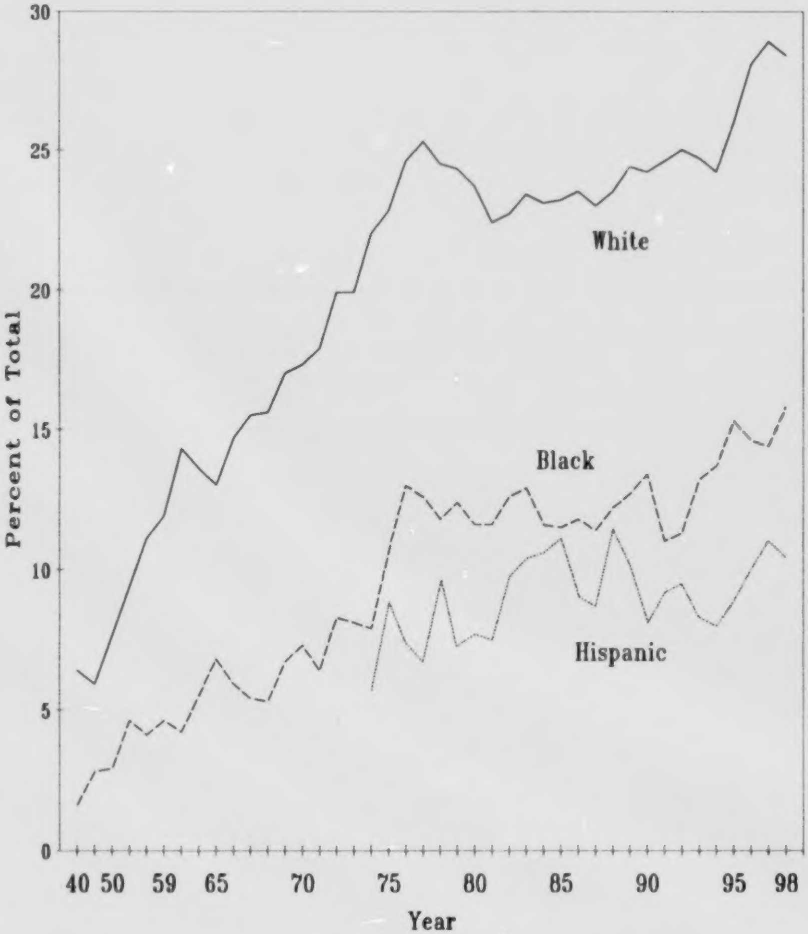
The difference between the male and female bachelor's degree attainment rate shown on the previous page makes this clear. In 1961 the female rate stood 8 percent below the male rate. By 1998 the female rate was more than 3 percent above the male rate. The trend is clear: this gap will continue to grow for the foreseeable future.

Race/ethnicity. The chart to the right shows the proportions of whites, blacks and Hispanics between the ages of 25 and 29 that have completed at least a bachelor's degree since 1940. By 1998 the proportions were 28.4 percent for whites, 15.8 percent for blacks and 10.4 percent for Hispanics. The previous trends are apparent in this chart as well: rapid growth up to about 1976, followed by much slower growth through 1998.

Note that when we are talking about the educational attainment of 25 to 29 year olds, we are talking about students who graduated from high school and entered college nearly a decade before they reached the 25 to 29 bracket. The peaks reached around 1976 and 1977 were started with high school graduates and college freshmen from the late 1960s. This was the era of the Vietnam War, with draft deferment for those males who pursued full-time college study.

For whites the growth in the bachelor's degree attainment rate occurred mainly between 1947 and 1977, from 5.9 to 25.3 percent. Then between 1977 and 1994 there was no growth, with the 1977 peak not surpassed until 1995 when it reached 26.0 percent. The recent increase has continued to the record 28.9 percent reached in 1997.

Persons 25 to 29 Years Who Have Completed 4 Years of College or More by Race/Ethnicity Selected Years: 1940 to 1998

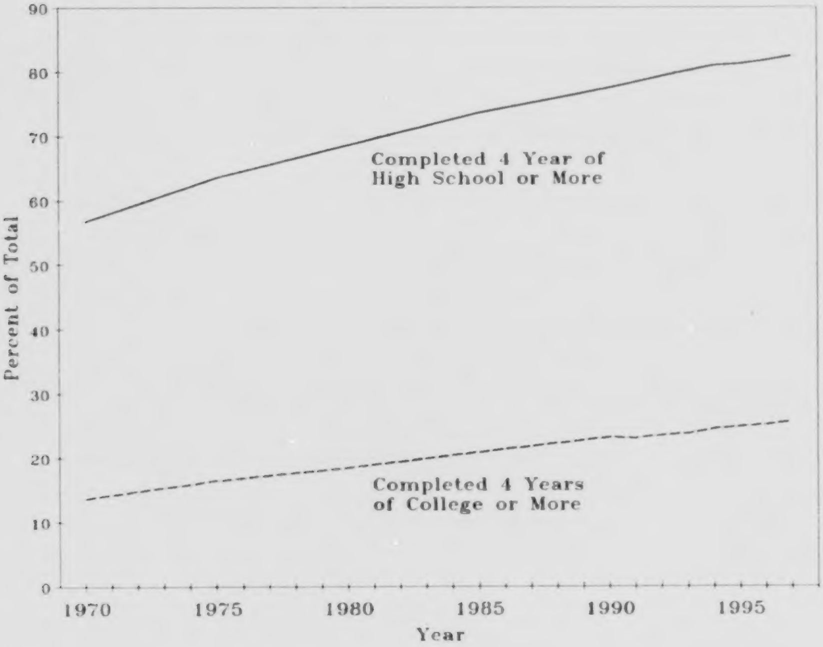


For blacks the picture is similar. Growth occurred between 1940 and the late 1970s, then plateaued until 1995 when real growth resumed. This growth in bachelor's degree attainment among 25 to 29 year olds in the late 1990s is the result of gains in high school graduates and college freshmen in the late 1980s and early 1990s.

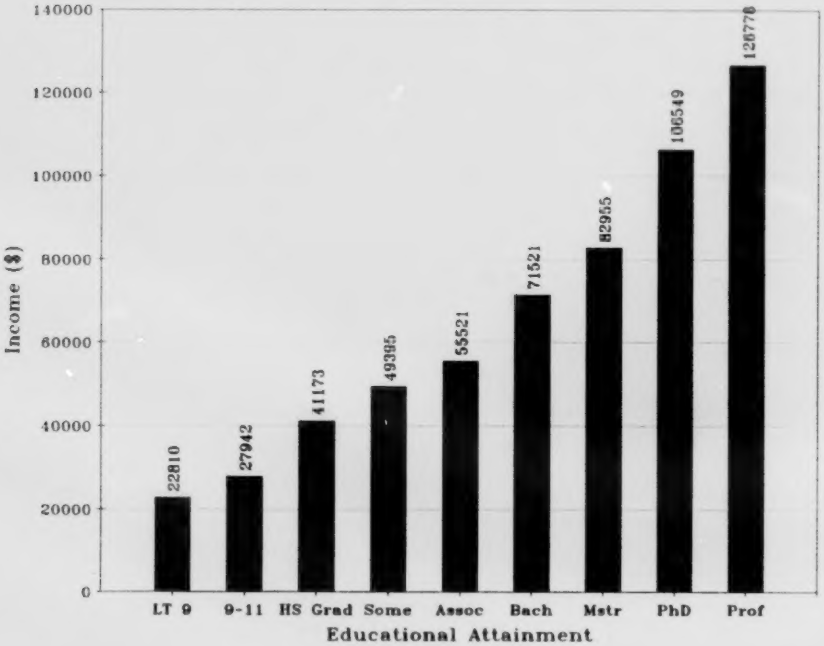
For Hispanics Census data are first reported in 1974. Between 1974 and the early 1980s the proportion of 25 to 29 year olds with a bachelor's degree increased from about 6 to about 11 percent. Since then there has been no real gain in educational attainment through the bachelor's degree. This pattern differs from that for whites and blacks where real gains have occurred in the 1990s.

Households

The relationship between educational attainment and income that measures human welfare begins with individual adults. This relationship extends to all aggregations of adults as well. Adults live in households, collections of households lead to communities, collections of communities lead to



Households Headed by Householder with High School or More and 4 Years of College or More of Education 1975 to 1997



Average Annual Income for Households by Educational Attainment of Householder 1997

states, and the sum of the states is the country as a whole.

Here we look at the relationship between educational attainment of householders--mostly families--and income. The results are not surprising.

Educational attainment. As the chart on the left shows, the proportion of American households headed by persons with at least a high school education has grown steadily since at least 1970. Over the last three decades, the proportion of householders having at least a high school education as grown from 56.7 percent in 1970, to 68.6 percent by 1980, 77.4 percent by 1990 and 82.4 percent by 1997. This growth is the result of both additions of high school graduates to the stock of householders, as well as subtractions of non-high school graduates due to death and other household reduction.

Similarly, the proportion of households headed by persons with at least a bachelor's degree from college has increased steadily and substantially between 1970 and 1997. In 1970 just 13.6 percent of all households were headed by a person with at least four years of college. By 1980 this had increased to 18.4 percent, to 23.2 percent by 1990 and 25.6 percent by 1997. This increase too is the natural result of additions of college-led households and the deletions of households headed by persons with less than a bachelor's degree from college.

Household income. The relationship between educational attainment and income that was shown so clearly for individuals (page 3) is shown just as clearly for households as well. And to the extent household income measures household welfare, those households headed by persons with more education are clearly living at higher standards than are the households headed by persons with lesser levels of educational attainment.

Household incomes were about $28,000 where the householder had gone to high school but not graduated, $41,000 for households where the head had graduated from high school, to $72,000 for households headed by a person with a bachelor's degree, and so on.

Expressed another way, the household headed by a high school graduate will have income that is 47 percent greater than another household that is headed by a person who is not a high school graduate. All of this additional income is available for discretionary purposes that add quality to living standards.

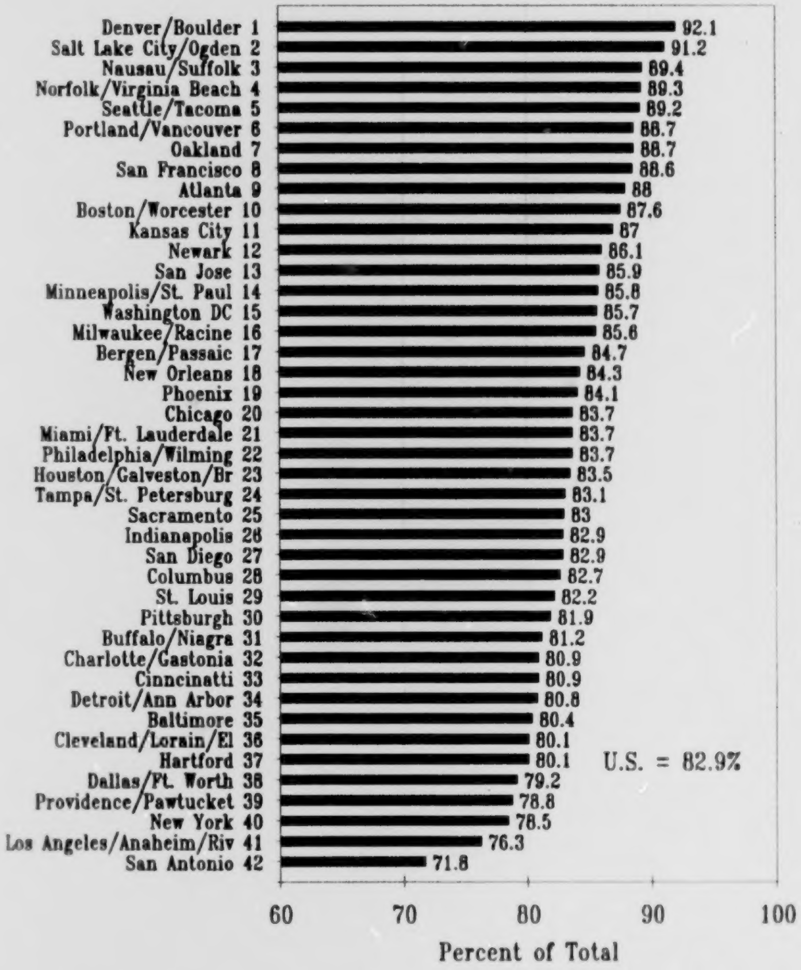
The household headed by a person with a bachelor's degree from college will have 155 percent greater income than the household of the person who did not complete high school. This more than triples the discretionary income and quality of life choices of the college graduate headed household compared to the high school graduate headed household.

Metropolitan Areas

Households may gather in various urban communities of neighborhoods, towns, cities and metropolitan regions.

Here we examine educational attainment and income for the largest cities and metropolitan regions. Educational attainment data by metropolitan area used in this analysis come from the Census Bureau's reports on educational attainment. Per capita personal income data used here are produced by the Bureau of Economic Analysis and published in reports on personal income by local areas.

High School Education or More for Persons 25 and Over by Large Metropolitan Area, 1995



Tran, D. "Personal Income and Per Capita Personal Income by State and Region, 1998." *Survey of Current Business*, pp. 28-77. May 1999. Washington DC: Bureau of Economic Analysis.

Educational attainment. The Census Bureau has published data on the proportion of the population 25 years and older with at least a high school diploma, and with at least a bachelor's degree. These data were last published for 1995 (due to revisions in definitions of metropolitan statistical areas that apparently have not been completed). Thus, our analysis of educational attainment for large metropolitan statistical areas is limited to 1995. (We also have per capita personal income for these same areas for 1995.)

In 1995 the proportion of each large metropolitan area's population age 25 and over that had at least graduated from high school ranged from 71.8 percent in **San Antonio**, to 94.9 percent in **Seattle.** Other cities with proportions of adults who were not high school graduates below 80

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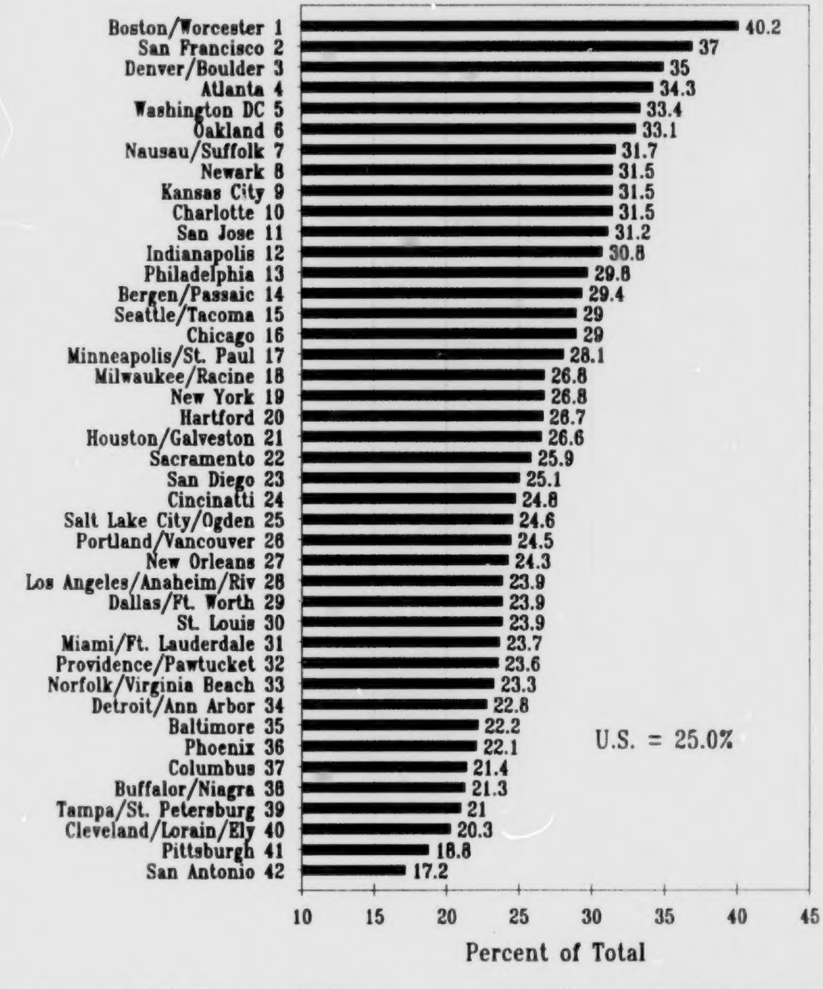
Bachelor's Degree or More for Adults by Large Metropolitan Area, 1995



percent included: **Los Angeles/Long Beach** (73.0%), **Cleveland** (75.2%), **Dallas** (78.5%), **New York** (78.5%), **Providence/Pawtucket/Fall River** (78.8%), and **Riverside/San Bernardino** (79.4%).

Cities with proportions of adults who were high school graduates that were greater than 90 percent, besides Seattle, included: **Denver** (93.0%) and **Salt Lake City/Ogden** (91.2%). All other cities had proportions between 80.0 and 89.9 percent in 1995.

In 1995 the proportion of each large metropolitan area's population age 25 and over that had at least a bachelor's degree ranged from 17.2 percent in **San Antonio** to 40.2 percent in **Boston**. Besides San Antonio, the only other large city with a proportion below 20 percent was **Pittsburgh** (18.8%).

The large cities with proportions over 35 percent of adults with at least a bachelor's degree in 1995 besides Boston included: **San Francisco** (37.0%), **Seattle** (37.0%) and **Denver/Boulder** (35.0%).

Income. In this analysis we have sought to measure the relationship between educational attainment and living standards as measured by income. We have shown this relationship first for individuals, then for households. Here we extend our analysis of this relationship to cities. In particular we examine the relationship between the proportion of each large city's adult population with a bachelor's degree to per capita personal income for that city. The relationship between educational attainment so clearly demonstrated for individuals and households holds here for cities as well.

In 1995 per capita personal income ranged from $11,044 in **McAllen/Edinburg/Mission** to $36,668 in **San Francisco**. Other cities with per capita personal incomes below $15,000 in 1995 included: **Laredo** ($11,696), **Brownsville/Harlingen/San Benito** ($11,967), **El Paso** ($14,037), **Las Cruces** ($14,194) and **Provo-Orem** ($14,821).

Cities with per capita personal incomes above $30,000 per year in 1995, besides San Francisco, included: **New Haven/Bridgeport/Stamford/Danbury/Waterbury** ($36,233), **West Palm Beach** ($35,078), **Bergen/Passaic** ($33,425), **Naples** ($32,836), **Trenton** ($32,483), **Middlesex/Somerset/ Hunterdon** ($32,461), **San Jose** ($32,289), **Newark** ($31,906), **Nausau/Suffolk** ($31,890), **New York** ($31,189) and **Washington DC** ($30,761).

We have examined the relationship between bachelor's degree attainment and per capita personal income for these 42 metropolitan areas for 1995--the most recent year for which the Census Bureau has released educational attainment data.

The results are what one would expect: per capita personal income tends to increase with the proportion of those 25 and over who have at least a bachelor's degree from college. The correlation between the two across these 42 metropolitan areas was .666 in 1995.

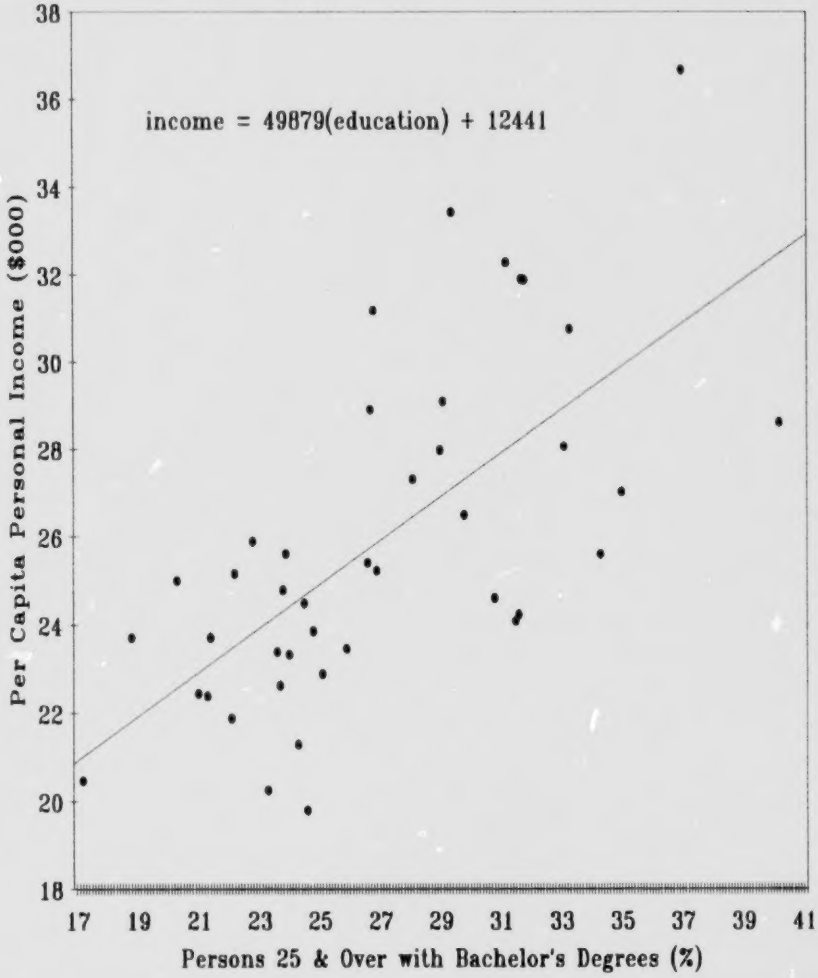
The chart on this page plots income versus education for these 42 metropolitan areas. We have also plotted the linear regression line through these data points, as well as shown the regression equation itself. The equation is:

income = 49879(education) + 12441

where:
income = per capita personal income
education = the decimal proportion of those 25 years and over who hold a bachelor's degree or more

What this equation indicates is that for each one percent increase in the proportion of those 25 years and over with a bachelor's degree, per capita personal income increases by $499 in 1995 dollars (or about $534 in 1998 dollars). Expressed another way, each one percent increase in the proportion of those 25 and over with at least a bachelor's degree adds about 1.7 percent to per capita personal income in metropolitan areas.

Income by Education for Metropolitan Areas
1995



States

States are comprised of individuals living in households who live in communities which are very often metropolitan areas. Thus, we may expect that the states with a larger share of better educated adults will have higher incomes (and living standards) than will other states with lower proportions of better educated adults.

In fact this is not only true, but just as the relationship between education and income for individuals and households has been strengthening since the early 1970s, so has the relationship between educational attainment and per capita personal income been strengthening in the states.

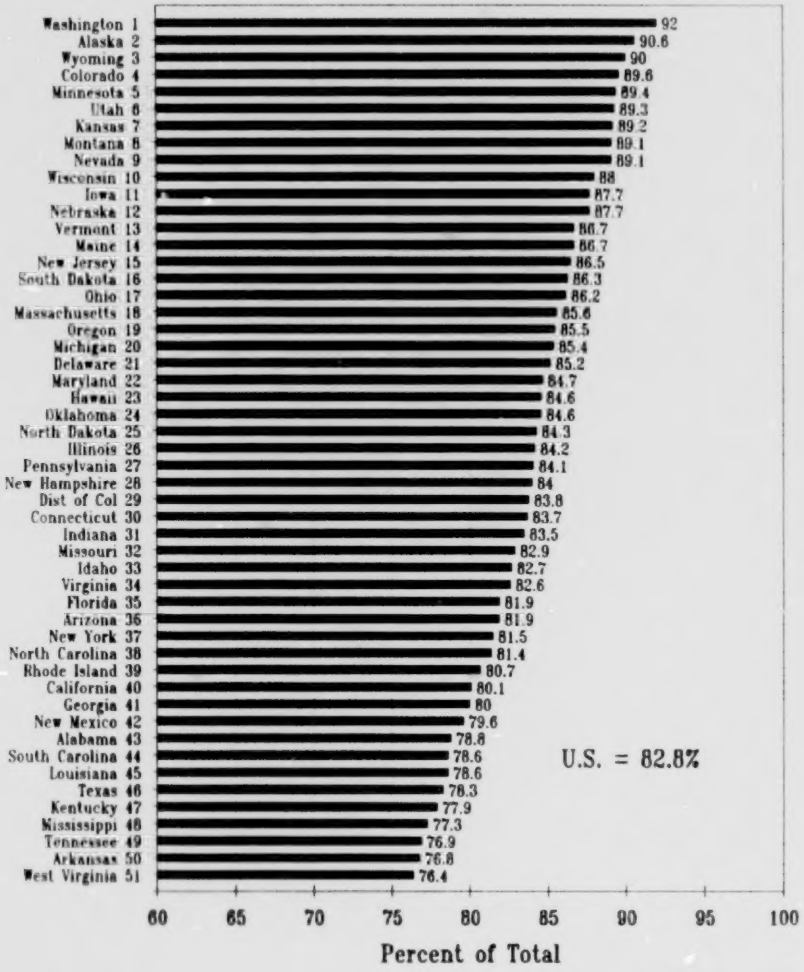
Educational attainment. The Census Bureau has reported since 1989 from the Current Population Survey on the proportion of each state's adult population that is at least high school graduate, and at least has completed a bachelor's degree.

(Note that with the state as the unit of analysis, these levels of educational attainment may not have been produced within the state. Americans are well known for their geographic mobility, and college graduates are more mobile than people with lesser levels of educational attainment.)

In 1998 the proportion of the U.S. civilian, noninstitutional population age 25 and over that was a high school graduate or more was 82.8 percent. The proportion of each state's population age 25 years and over that was at least a high school graduate ranged from 76.4 percent in **West Virginia** to 92.0 percent in **Washington**.

The states with the lowest proportion

Persons 25 and Over with High School Diploma or More
1998



of high school educated adults tended to be southern states. The states with the lowest proportions of high school graduates in 1998, in addition to West Virginia, were: **Arkansas, Tennessee, Mississippi, Kentucky, Texas, Louisiana, South Carolina** and **Alabama**.

However, between 1989 and 1998, the largest gains in the proportion of adults that were high school graduates also occurred mainly in the southern states. While this proportion increased by 5.9 percent for all states, the largest gainers were: **Alabama** (+15.6%), **Kentucky** (+13.2%), **Tennessee** (+11.5%), **Dist of Columbia** (+10.9%), **North Carolina** (+10.1%), **Maine** (+9.8%), **Mississippi** (+9.6%), **Arkansas** (+9.2%), **Oklahoma** (+9.2%) and **Georgia** (+8.9%). Clearly these southern states are catching up with the rest of the states.

The states with the highest proportions of high school graduates among those 25 and over tended to be northern and/or western states. In addition to Washington, these included: **Alaska, Wyoming, Colorado, Minnesota, Utah, Kansas, Montana and Nevada.**

Between 1989 and 1998, all states made at least some gains in the proportion of those 25 and over who were at least high school graduates. But some states made almost trivial gains: **Utah** (+1.1%), **Arizona** (+1.3%), **California** (+1.5%), **Oregon** (+1.6%), **New Hampshire** (+1.8%) and **Hawaii** (+2.3%). Since most of these states are western states, the relative lack of growth in high school graduates should be a matter of some concern in the west.

The proportion of each state's population 25 and over with at least a bachelor's degree from college in 1998 ranged from 16.2 percent in **Arkansas** to 36.5 percent in the **District of Columbia**. The states with proportions below 20 percent in 1998 were: **West Virginia, Tennessee, Indiana, Maine, Mississippi, Louisiana** and **Wyoming.**

In addition to the District of Columbia, several states had proportions of adults with bachelor's degrees over 30 percent in 1998. These states were: **Colorado, Maryland, Connecticut, Minnesota, Massachusetts, Virginia** and **New Jersey**.

Between 1989 and 1998 only two states experienced declines in the proportion of their population 25 and over that had a bachelor's degree: **Wyoming** (-2.1%, from 21.9 to 19.8%) and **Arizona** (-0.3%, from 22.2 to 21.9%). One state held constant in both years: **California** (at 26.4%).

All other states had increases between 1989 and 1998. The largest increases were in **Minnesota** (+9.5%), **Alabama** (+9.0%), **Rhode Island** (+7.6%), **Oregon** (+7.5%), **Colorado** (+7.0%), **Kansas** (+6.2%), **Delaware** (+5.7%), **Kentucky** (+5.2%), **West Virginia**

(+5.2%) and **North Carolina** (+5.0%). We will return to these data later in this analysis when we examine the redistribution of per capita personal income between the states.

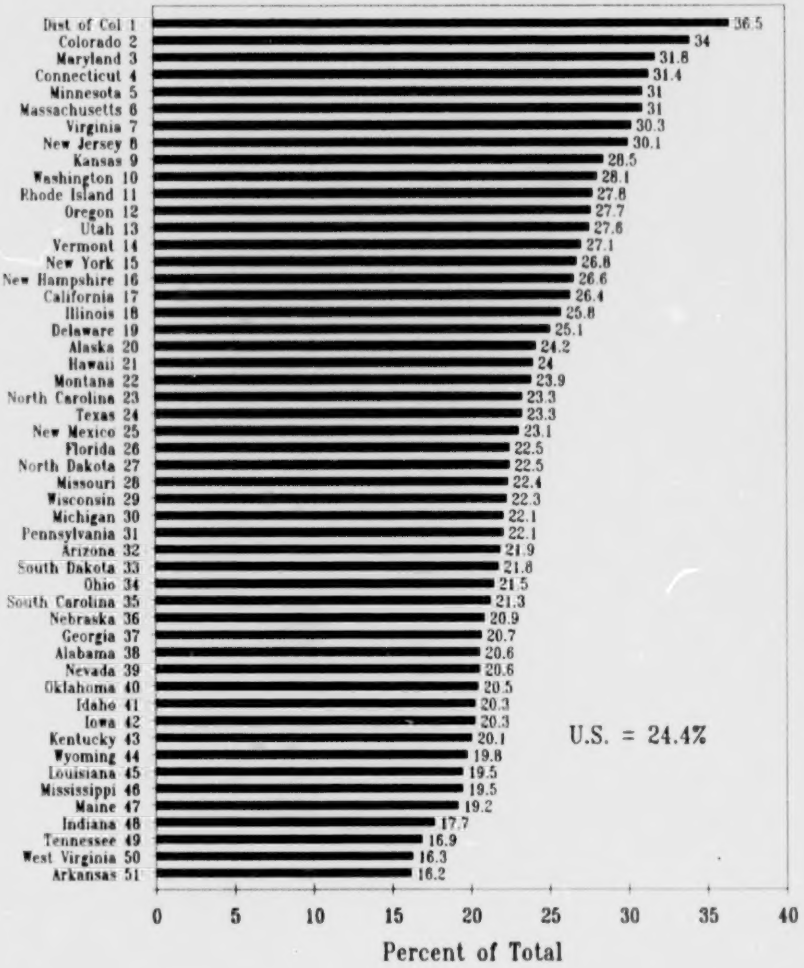
Income. The relationship between educational attainment and income (used here as a measure of living standards) is clear and strong for persons, for households and for cities. Here we will show that the relationship between education and income is just as clear and strong at the state level.

Income as used here is per capita personal income as reported by the Bureau of Economic Analysis. This is the same measure used for metropolitan areas in the previous analysis.

In 1998 per capita personal income ranged from $18,958 in **Mississippi** to $37,598 in **Connecticut**. The states with notably low per capita personal incomes, besides Mississippi, are **West Virginia** ($19,362), **New Mexico** ($19,936), **Montana** ($20,172) and **Arkansas** ($20,346). The states with the highest per capita personal incomes in 1998 besides **Connecticut** are **District of Columbia** ($37,278), **New Jersey** ($33,937), **Massachusetts** ($32,797) and **New York** ($31,734).

There are other measures that could be used, such as per capita disposable personal income. In 1998 this ranged from $17,067 in **Mississippi** to $30,729 in the **District of Columbia**.

For our purposes, we will use the grosser measure of income under the assumption that government services finance living standards that individuals would otherwise have to pay for directly.



Persons 25 and Over with Bachelor's Degrees or More
1998

The chart on the following page shows the relationship between educational attainment and income. Specifically in 1998 for each state the plot of the proportion of persons over 25 years with at least a bachelor's degree is shown against that state's per capita personal income.

Through this scatter-plot is shown the regression line for these data. The regression for these data points is:

income = 69319(education) + 8784

where:

income = state per capita personal income

education = the decimal proportion of the state's population 25 years and over that holds at least a bachelor's degree

The correlation between educational attainment and per capita personal income for the 50 states plus the District of Columbia is .762.

From the regression equation for 1998, each one percent gain in the proportion of a state's adult population with at least a bachelor's degree adds

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$693 to state per capita personal income. Or, expressed another way, each one percent gain in education adds about 2.67 percent to state per capita personal income.

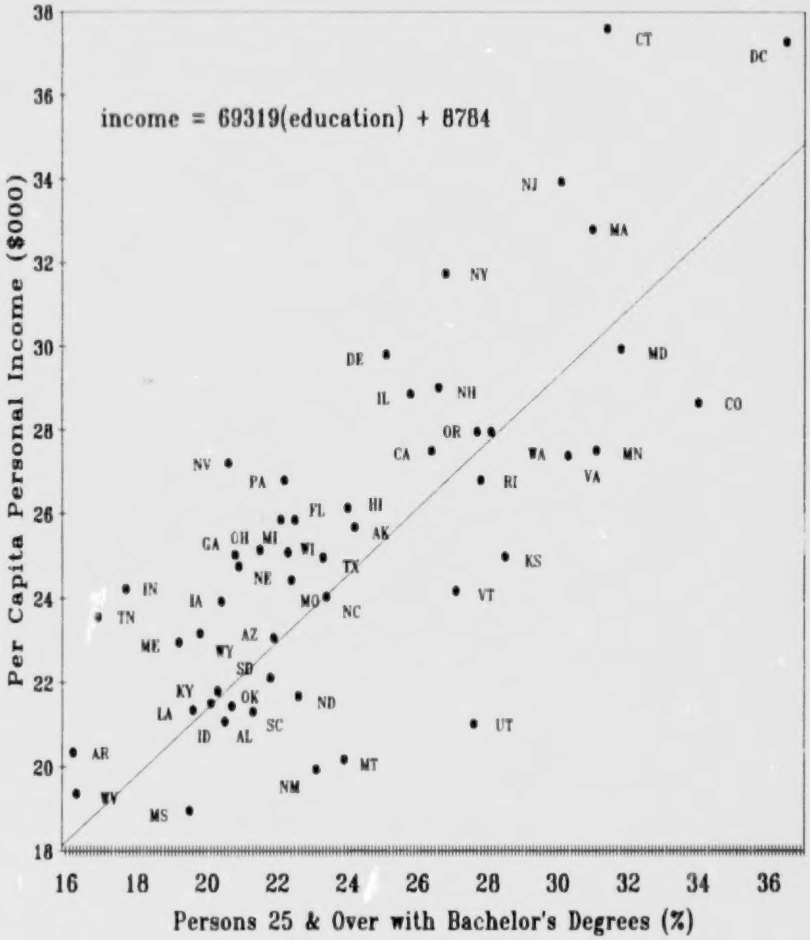
We have examined the changing relationship of education to income over time across the states from several perspectives. These separate analyses all produce the same finding: the relationship between educational attainment and personal income has been strengthening at the state level over the last decade (of available data).

First, we compared changes in the states between 1989 and 1998 in both educational attainment and personal income. We compared the change in the proportion of those 25 and over with a bachelor's degree to the change in per capita personal income (CPI adjusted) between 1989 and 1998. The correlation between these two change measures was +.287. This indicates that income grew more in the states with the largest gains in educational attainment, and income grew least in the states with the smallest gains in educational attainment between 1989 and 1998.

Second, we have calculated the regression equations for each year of available state educational attainment data using constant dollars. The results are shown in the table to the left. Note a) the strengthening of the correlation over this brief nine-year time span, from .693 in 1989 to .762 by 1998, b) the slope of the regression through each years' scatter plots steepens from 57,141 to 69,319, and c) the y-intercept declines from 10,361 to 8784.

Both of these statistics indicate that the relationship between the proportion of those 25 and over with a bachelor's degree and per capita personal income across the states has strengthened during the last decade.

Per Capita Personal Income by State by Educational Attainment of Persons 25 and Over 1998



Linear Regression Equations for Educational Attainment by Per Capita Personal Income by State 1989, 1991, 1993 to 1998			
Year	Slope	Intercept	Correlation
1998	69319	8784	.762
1997	69209	8601	.758
1996	68733	8293	.803
1995	59233	10276	.757
1994	56355	11123	.701
1993	59637	10286	.751
1991	53010	10703	.704
1989	57141	10361	.693

Summary and Conclusions

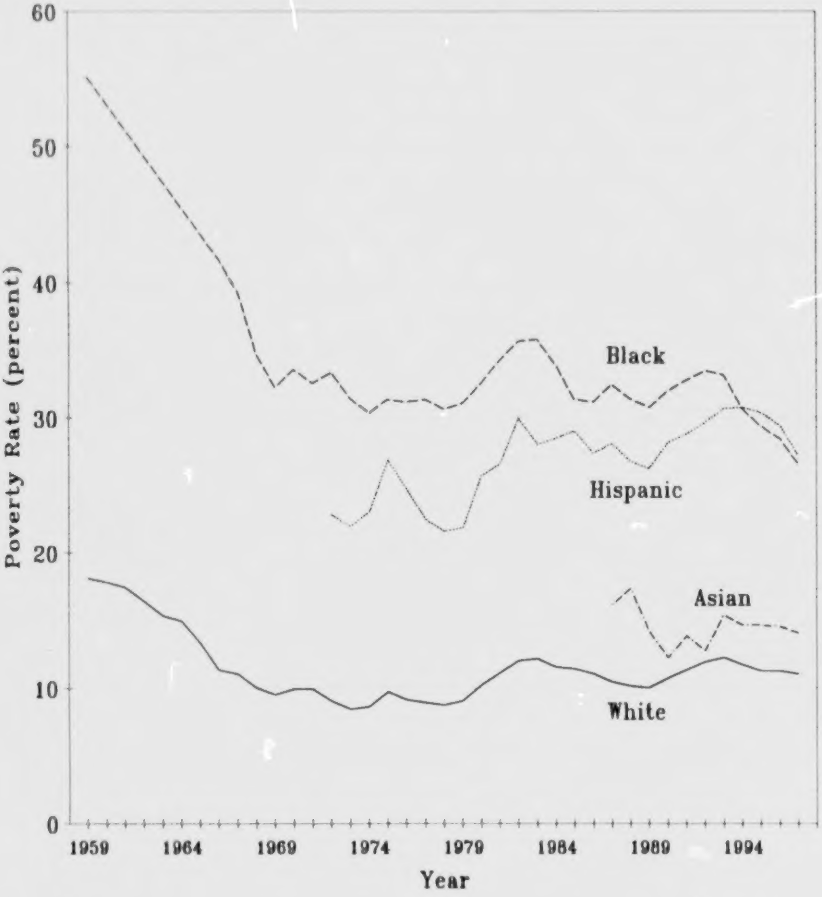
This study set out to examine educational attainment for individuals, households, cities and states. In addition, this study sought to identify the relationship between educational attainment and income for individuals, households, cities and states.

There are many findings from this study in terms of both the distribution and redistribution of educational attainment across the studied groups. These findings are shown to have direct meaning for the distribution of personal income and the living standards supported by that income at each level of social aggregation from the individual to the state.

Individuals. For individuals, educational attainment measured through the high school diploma and the bachelor's degree by age 25 to 29 years showed significant progress between 1940 and about 1977, but little or no progress since then. This was not true for all subgroups within the population, however. Females and blacks have shown significant educational progress since 1977, while males and Hispanics have not.

The importance of educational progress to the welfare of blacks and Hispanics is shown in the chart on this page. Hispanics have for the last three years displaced blacks with the highest poverty rates for any major racial/ethnic group of the population. Prior to the mid 1990s, the poverty rate for Hispanics stood well below that of blacks. But over a period of decades, the steady progress of blacks in both high school and college graduation--especially when contrasted to the lack of educational progress for Hispanics--has led to the lowest poverty rates for blacks on record. At the same time poverty rates for Hispanics have been generally increasing. At this point the economic prospects for blacks look considerably brighter than they do for the Hispanic population.

Poverty Rates by Race/Ethnicity
1959 to 1997



Similarly, the educational progress for females--especially when contrasted to the relative lack of progress for males--promises a brightening economic future for females, but not for males.

Households. A growing share of U.S. households are headed by persons who have completed high school and have completed 4 years of college. This conclusion differs from the previous finding for individuals. Here our analysis counts all household heads of any age, whereas the previous analysis was limited to persons between 25 and 29 years of age. The previous finding suggests that growth in the educational attainment of household heads is likely to slow in the future.

But here too household income is driven largely by educational attainment. Just as with individuals, household income rises directly with educational attainment. Moreover, from our previous analyses of family income, the relationship between household income and householder educational attainment has been strengthening since about 1973.

Metropolitan areas. Educational attainment at both the high school graduate and bachelor's degree completion levels varies widely from city to city. Our analyses of Census Bureau data show educational attainment to be lowest in cities closest to the border with Mexico in Texas and New Mexico. Educational attainment tends to be highest in cities elsewhere, such as Denver and Boston.

Not surprisingly, our analyses find that per capita personal income tends to be highest in those cities and metropolitan areas where educational attainment--measured by the bachelor's degree--is highest. Similarly, per capita personal incomes tend to be lowest in those cities with the lowest levels of educational attainment among those 25 years and older. Across cities, each one percent increase in the proportion of those 25 and over with a bachelor's degree adds $534 or 1.7 percent to per capita personal income.

States. The basic finding of this analysis that income increases with educational attainment is replicated in states too. Educational attainment varies widely across the states and with that variation comes variation in state per capita personal income. Each one percent increase in the proportion of a state's 25+ population with at least a bachelor's degree adds $693 or 2.7 percent to state per capita personal income. This relationship between educational attainment and income across the states has strengthened measurably between 1989 and 1998 as measured by a variety of means in our analyses.

We have long tried to point out that educational opportunity costs money: for capacity, for quality and for affordability. However, throughout the 1990s the share of Gross Domestic Product spent on higher education has been shrinking. Mainly this is a result of the sharp cutback in higher education investment by the states. Students, their families, and federal taxpayers have been unable to offset all of the reductions in state appropriations for higher education.

Without expanded investment in higher education, it is difficult to see how higher educational opportunity can be expanded in its basic dimensions of capacity, quality and affordability. Rather, our failures to finance opportunity after about 1980 have resulted in less educational attainment than required by the economy. Hence, there is less individual, household, city and state welfare than we should have reached by now.

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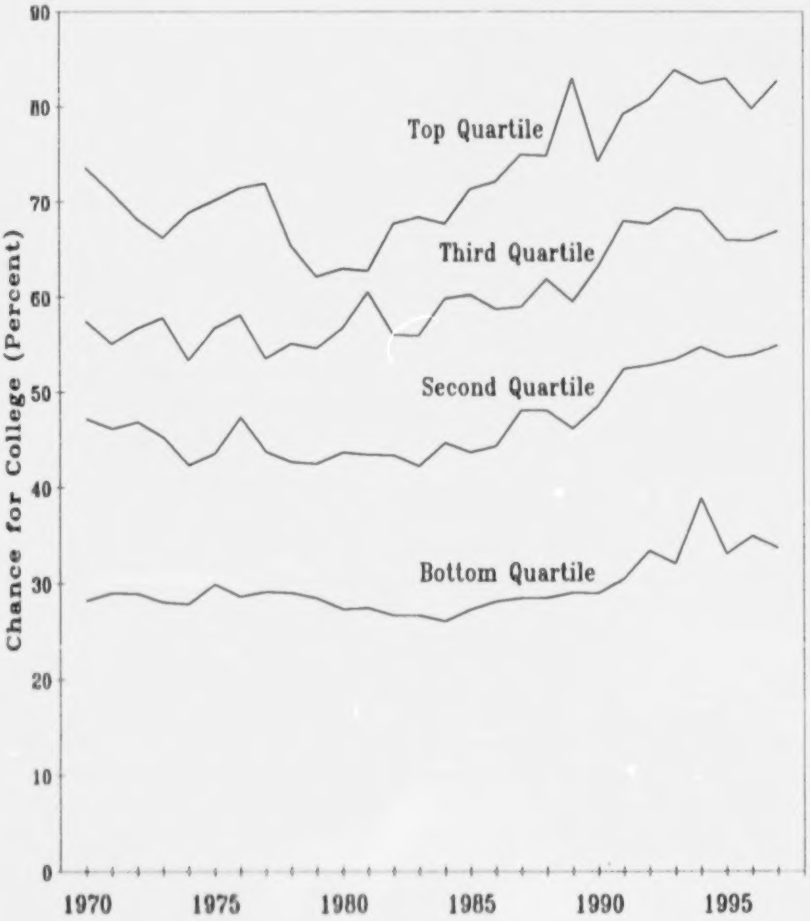
Educational Opportunity by Family Income 1970 to 1997

o an extraordinary and relentless egree, educational opportunity is etermined by family income. hildren born into families with the ost income have the greatest ducational opportunities, and children orn into families with the least ncome have the fewest educational pportunities. Educational opportunity osts money. This has been true for very one of the last 28 years that the ensus Bureau has published the data y which educational behaviors could e measured across family income evels.

n 1965, with passage of the Higher ducation Act, Congress set out on a ational effort to level the playing ield. The educational opportunities vailable to people should not be etermined by the circumstances of heir birth. The two major federal rogram initiatives were financial aid nd college outreach services. The inancial aid programs created through he Higher Education Act of 1965 and ubsequent amendments have included rants, loans and work-study. The ollege outreach program initiatives ave included Upward Bound, Talent earch, Student Support Services and ther supportive services to students rom low income family backgrounds.

ut as the charts in this analysis show, his has not been enough. Some otable progress was made in the 970s to close the huge gaps in ducational opportunity. But since bout 1980, these gains--and more-- ave been lost. By the mid 1990s, the gaps in educational opportunity between students from low and high income family backgrounds were wider than they have ever been.

Chance for College for Dependent 18 to 24 Year Olds
by Family Income Quartiles in the United States
1970 to 1997



The public policy commitments of the 1960s and 1970s to equalize higher educational opportunities have been seriously diffused, diluted and under-

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-funded in the 1980s and 1990s. As a result, higher educational opportunity has assumed a new role, one of widening the income gaps that have plagued American capitalist society since about 1967.

In the 1960s and 1970s, educational opportunity policy was used to bridge gaps in living standards inherited at birth. In the 1980s and 1990s new policies have been created that greatly--*greatly*--exacerbate inequality of income, living standards and educational opportunity.

The programs that spring from these new policies include merit based scholarships, college savings and prepaid tuition programs, tuition tax credits limited to those who pay taxes, tuition roll-backs, and reduced expected financial contributions from families in federal need analysis. Instead of policy designed to broaden educational opportunity, these new policies have the effect, if not the purpose, of limiting higher educational opportunity to those who vote. It is a 180 degree reversal in policy direction from where we were going in the 1960s and 1970s.

Here we update and extend our annual review of recently released data from the Census Bureau on educational opportunity across quartiles of family income.

The Data

Most of the raw data used in this analysis come from a single table, in a single Census Bureau report.

Martinez, G., and Day, J. C. (July 1999). "School Enrollment-Social and Economic Characteristics of Students. *Current Population Reports*. P20-516. Washington, DC: U.S. Department of Commerce, Census Bureau.

Specifically, the raw data that we analyze for 1997 appear in Table 15 of this report. Prior years' data were published in Table 15 in the reports for prior years, beginning in 1970.

For the last several years the Census Bureau has provided copies of this report free on the Internet to those able to download and print-out the report from the Census Bureau's website. The URL for the first page of this website is:

http://www.census.gov

The page from which the 1997 and other recent reports in this series can be downloaded is:

http://www.census.gov/population/www/socdemo/school.html

Note that the downloader must have installed free Adobe Acrobat Reader software to download, read and print this report. A link on the Census Bureau's website will take you to the Adobe website where you can download and install this software while on-line.

We emphasize that our analysis begins with these published Census data. What we report in OPPORTUNITY in text, tables and charts is the result of our own analyses of these data, for which we alone are responsible.

Family Income Quartiles

To facilitate comparisons of educational opportunity over time and across levels of family income, we have recalculated the Census Bureau's data by family income quartiles for high school graduates. That is to say exactly one-quarter of the unmarried 18 to 24 years olds fall into each family income quartile range. In 1997 there were 2,826,000 unmarried 18 to 24 year old high school graduates in each family income quartile.

For 1997 the family income quartiles are defined by the following family income ranges:

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Mission Statement

This research letter is founded on tw fundamental beliefs. First, sound public soci policy requires accurate, current, independent and focused information on the huma condition. Second, education is essential to th development of human potential and resource for both private and public benefit. Therefore the purpose of this research letter is to inform those who formulate, fund, and administe public policy and programs about the conditio of and influences that affect postsecondar education opportunity for all Americans.

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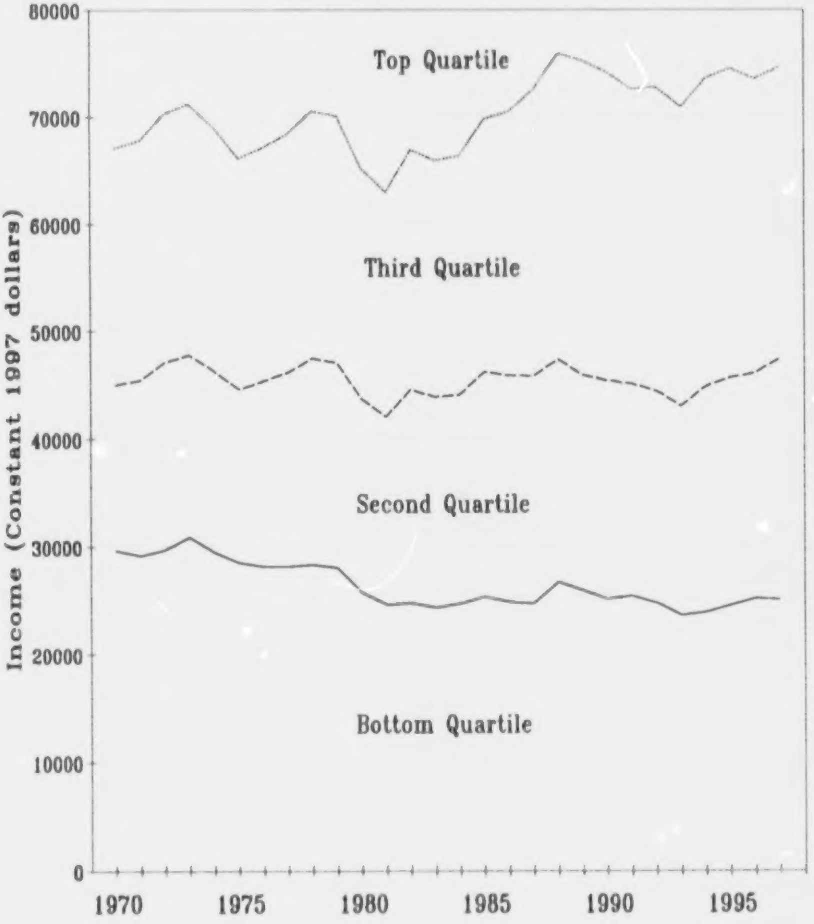
Password: trio

Family Income Quartile Range Limits
for Unmarried High School Graduates 18 to 24 Years
1970 to 1997



Bottom quartile (Q1): $0 to $25,063
Second quartile (Q2): $25,064 to $47,405
Third quartile (Q3): $47,406 to $74,583
Top quartile (Q4): $74,584 and above

Note that these are *not* the same as constant dollar range definitions. In the nation's population, the rich are getting richer and the poor are getting poorer. The same holds true for the distribution of high school graduates by family income level. As shown in the chart to the right:

- The upper income limit for the third quartile has grown, in constant dollars, from $67,091 in 1970 to $74,583 in 1997. This is a 11.2 percent increase.
- Similarly, the upper income limit for the second quartile (which is also the median for the population) has increased from $44,986 in 1970 to $47,405 in 1997. This is an increase of 5.4 percent.
- The upper income limit for the bottom family income quartile has declined from $29,606 in 1970 and $25,063 in 1997. This is a decline of 15.3 percent.

In the charts reported for this analysis, we will use the quartile naming convention. The bottom quartile refers to those unmarried 18 to 24 year olds whose family incomes ranged from zero to $25,063 in 1997, and so on. The top quartile refers to those whose family incomes were $74,584 and above in 1997.

Educational Opportunity by Family Income

For illustrative purposes here, we have set out as a goal completing a bachelor's degree by age 24. The available data limit us to this approach. To achieve this goal a person must complete three educational tasks: graduate from high school, enroll in college, and complete a bachelor's degree by age 24. The following analyses examine the proportion of cohorts from each family income quartile for each year of analysis from 1970 through 1997 that have completed each of these steps.

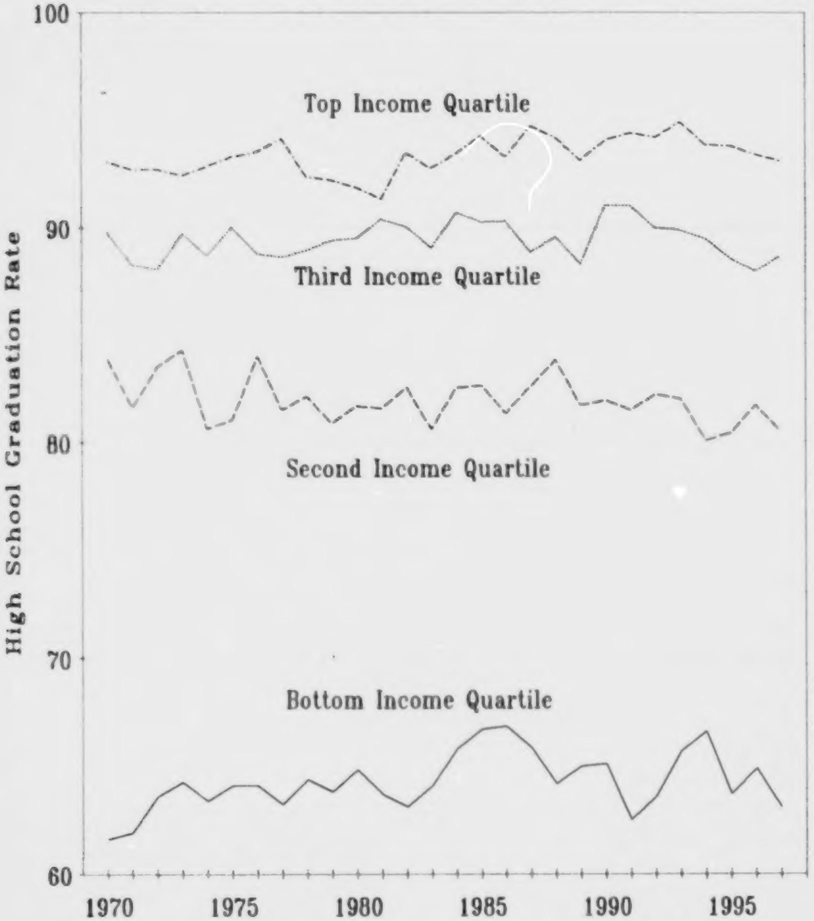
In the following analyses, we examine the rates at which students from these four family income quartiles have moved through the education system toward the goal of a bachelor's degree by age 24.

High School Graduation

The first hurdle on the path to the bachelor's degree is high school graduation. Here the Census Bureau counts high school graduates liberally, including GED and other alternative certification along with regular or standard high school diploma recipients.

In 1997 79.5 percent of unmarried 18 to 24 year old dependent family members were high school graduates. Since 1970 this proportion has remained quite stable around 80 percent. The high was 82.0 percent in 1985, and the low was 79.2 percent in 1971.

High School Graduation Rates by Family Income Quartiles for Unmarried 18 to 24 Year Olds 1970 to 1997



By quartiles of family income, in 1997 the high school graduation rates were:

Bottom quartile:	63.1%
Second quartile:	80.5%
Third quartile:	88.6%
Top quartile:	93.1%

Thus, at the very first hurdle on the three hurdle path to a bachelor's degree by age 24, the field is dispersed according to family income.

Here at each quartile of family income high school graduation rates have been relatively stable between 1970 and 1997.

- In the bottom family income quartile, the graduation rate has ranged between 61.6 percent (1970) and 66.9 percent (1986). If there are trends to these data, it is one of increasing graduation rates between 1970 and 1986, followed by modest declines.
- In the second family income quartile, the high school graduation rate has ranged from 81.5 percent in 1991 to 83.9 percent in 1976. Over the 28 years of available data, there is a slight downward trend to these data.
- In the third quartile, the range has been from 88.0 percent in 1972 to 91.0 percent in 1990 and 1991. Since the early 1990s this rate ha declined.
- In the top quartile, the high schoo graduation rate has fluctuate between 91.3 percent in 1981 an 94.4 percent in 1991.

In 1997 at no level of family incom were high school graduation rates a the top or bottom of their range ove the last 28 years.

College Participation

Unlike high school graduation rates college participation rates amon unmarried 18 to 24 year old hig school graduates have fallen and rise sharply over the last 28 years. Als unlike high school graduation, colleg participation requires decisions commitments and actions by th student to participate in highe education.

In 1997 71.3 percent of the unmarrie 18 to 24 year old high schoo graduates were college participants This means that they were eithe currently enrolled in college, or ha completed 1 to 3 years of college an were no longer enrolled, or ha completed 4 years of college or mor and were no longer enrolled i college.

In 1970 61.3 percent of the hig school graduates were colleg participants. This rate fluctuated i the 1970s, but generally declined to it nadir at 56.3 percent in 1979. Afte that the college participation rate ros fitfully to 62.9 percent by 1990. Afte 1990 this rate jumped sharply to 67. percent in 1991 and continued t increase to its record high of 72. percent in 1994. Since 1974 th college participation rate has remaine above 70 percent, and the 1997 rate o 71.3 percent is the second highest o record.

College participation rates for thos

who have graduated from high school also vary directly with family income. In 1997 the college participation rates by family income quartile were:

Bottom quartile:	53.2%
Second quartile:	68.2%
Third quartile	75.5%
Top quartile:	88.8%

Thus, again at the second hurdle on the path to a bachelor's degree by age 24, the field is further dispersed according to family incomes.

Moreover, the gaps in college participation rates across quartiles of family income that narrowed in the 1970s have been widening in the 1980s and 1990s. Between 1979 and 1997, the following changes in college participation rates at each family income quartile occurred:

Bottom quartile:	+8.6%
Second quartile:	+15.8%
Third quartile:	+14.4%
Top quartile:	+21.5%

These growing disparities result, at least in part, from the timing of when the turnaround in participation rates occurred. Those from the top quartile of family income reversed their 1970s slide in 1980 and their participation rates have been climbing ever since. But the early 1980s were very hard on those from the bottom family income quartile. Their reversal did not begin until 1985, and by then they were five years further behind the top quartile group.

Chance for College

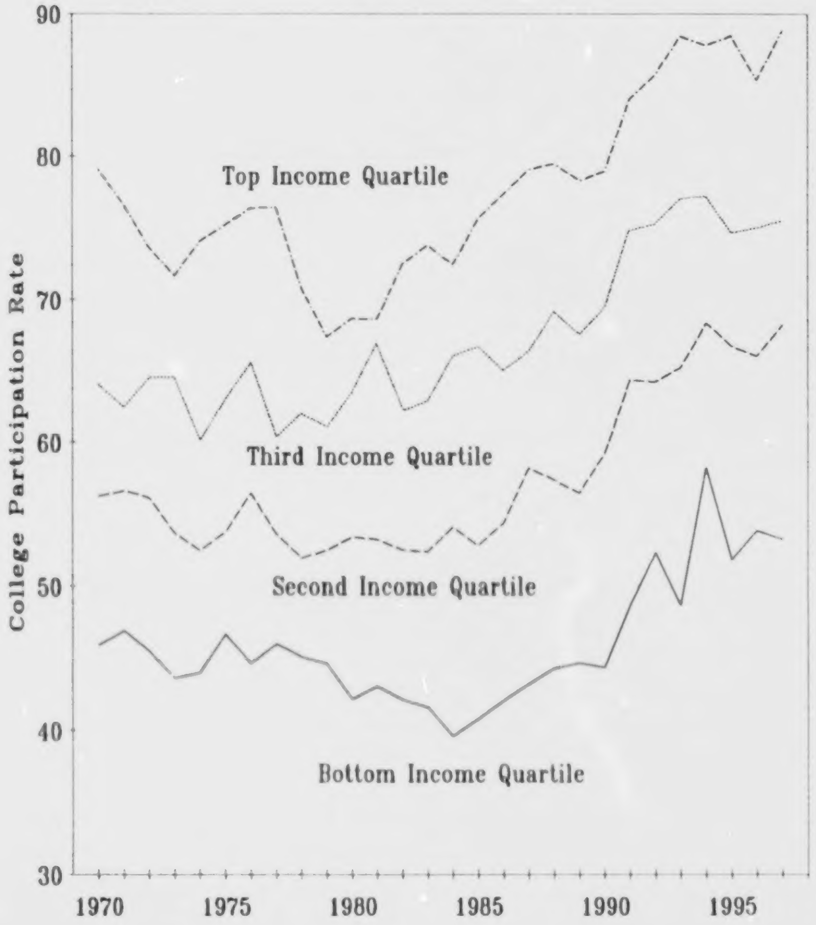
If we multiply the high school graduation rate by the college participation rate for those who graduated from high school then the result is chance for college. This is the proportion of the population of unmarried 18 to 24 year olds that will reach college. They have made it over both of the first two hurdles.

This calculation is shown in the chart on the first page of this issue of OPPORTUNITY. In 1997 the chance for college was 56.6 percent. By family income quartiles the chance for college was:

Bottom quartile:	33.6%
Second quartile:	54.9%
Third quartile:	66.9%
Top quartile:	82.7%

The disparities across income quartiles in both high school graduation and college participation rates are magnified in this measure.

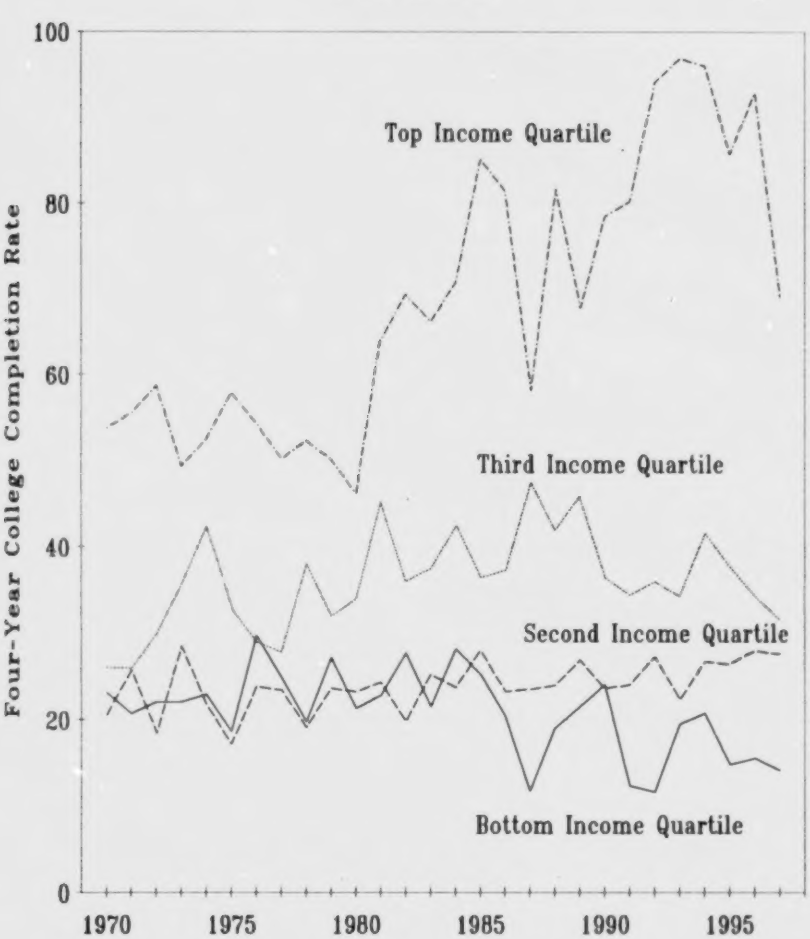
College Participation Rates by Family Income Quartiles
for Unmarried 18 to 24 Year Old High School Graduates
1970 to 1997



Moreover, since the end of the 1970s--roughly the end of the national commitment to equalizing higher educational opportunity--the disparity in chance for college has grown. For example, in the 1970s, the average difference in chance for college between the top and bottom income quartiles was 40.2 percent. In the 1980s this increased to 43.1 percent, and in the 1990s the difference has averaged 44.9 percent. The 1997 difference--49.1 percent--is the second largest on record.

Clearly chance for college has grown more unequal over the last three decades. Generally chance for college is more unequally distributed across

Estimated Four-Year College Completion Rates by Age 24 by Family Income Quartiles for Unmarried College Students 1970 to 1997



family income levels in the 1990s than it has been in the past. As bad as this sounds, the disparities are far worse when we examine college completion rates across family income quartiles.

Estimated College Completion

The Census data used so far in this analysis have provided a reasonably sound basis for measuring high school graduation and college participation rates. But they do a far less satisfactory job of describing bachelor degree attainment rates across these same family income quartiles.

We have struggled with this problem for the last decade. We have constructed an imperfect estimation technique of calculating college completion rates--measured as bachelor's degree attainment by age 24--from the Census data combined with 6-year graduation rate data from the 1980 High School and Beyond study. This estimation technique involves multiplying the proportion of 18 to 24 year olds that entered college and have completed four years or more of college and are no longer enrolled (one of the three components of the college participation rate), by a factor derived from the 1980 HS&B study.

The results of this estimation technique are shown in the chart on this page. Here the real divergence in bachelor's degree completion for those who start college from different family income backgrounds becomes glaring.

- In the top quartile of family income, college completion rates have increased substantially over the last two decades, although our estimation technique appears to overstate this completion rate.
- In the bottom family income quartile, college completion rates have declined substantially between 1984 and 1997.

Our best guess is that 4-year college completion rates, by age 24 and by family income quartile in 1997 were:

Bottom quartile	14.1%
Second quartile	27.6%
Third quartile	31.5%
Top quartile	about 70 %

Moreover, since 1980 when the trends began to diverge, the changes have greatly redistributed 4-year college completion across family income quartiles:

Bottom quartile	-7.2%
Second quartile	+4.4%
Third quartile	-2.5%
Top quartile	about +36%

There are powerful forces--economic benefits and costs of college--acting on students that influence these divergent behaviors. Among them are the following.

First, the labor market signals that high school is no longer enough to make it in the world are strong and reasonably clearly perceived at all income levels. This is apparent from the chart on page 5. At all levels of family income, college participation rates have increased substantially over the last two decades.

Second, there has been a cost-shift from taxpayers to students since about 1980. This has occurred at both the federal and state levels of government. At the federal level this has occurred by shifting from grants to loans in student financial aid and in other ways.

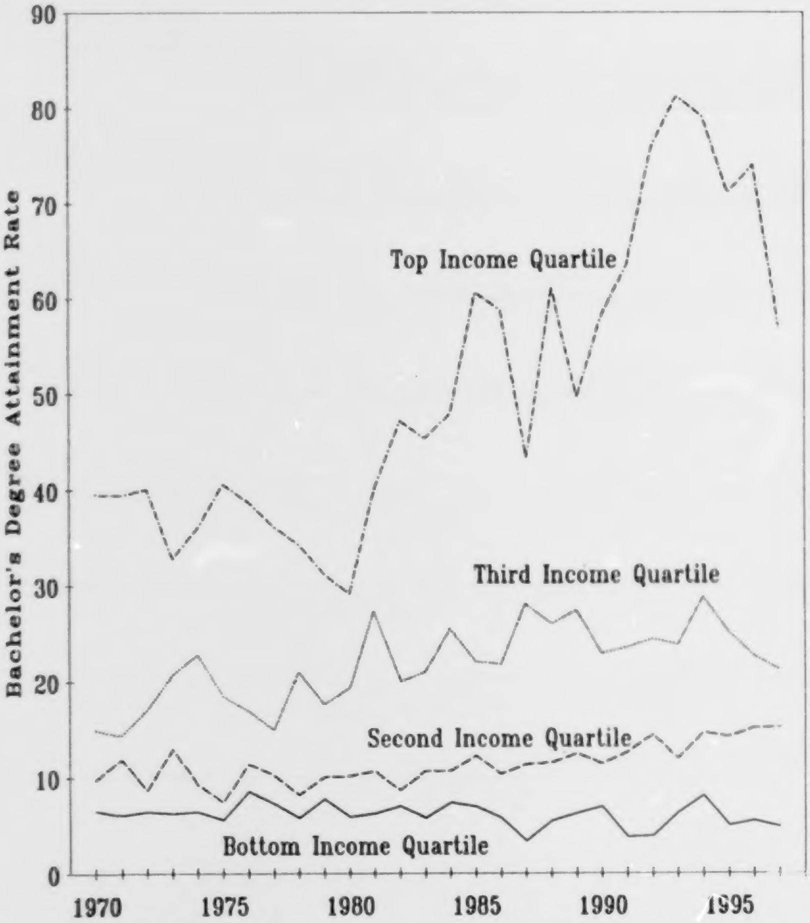
At the state level the cost shift has resulted from states shifting state dollars from higher education to other budget priorities (corrections, health care for the poor, and tax cuts) and raising tuition charges to students in public colleges to offset the loss of state financial support.

This cost-shift from taxpayers to students has had very different effects across family income levels.

- At the high end of family income, these cost shifts have been largely imperceptible because college attendance costs amount to a relatively small share of discretionary income. Moreover, real discretionary incomes have increased almost as fast as college attendance costs. Thus, these students from high income families are largely responding to the labor market signals for more education.
- At the low end of the family income distribution, costs of attendance are very serious barriers to higher education. Not only are the poor poorer than they were a decade or two ago, but the financial aid system has been changed in ways that work against students from low income families.

The net result is changes in student enrollment behaviors, particularly where costs of attendance impact college enrollment decisions. The kinds of changes we have documented and reported in past issues of OPPORTUNITY include low family income students choosing to attend public 2-year colleges, attending college part-time, and working more to avoid educational loans and debt.

Estimated Chances for a Baccalaureate Degree
by Age 24 by Family Income Quartile
1970 to 1997



Estimated Bachelor's Degree Attainment by Age 24

The product of the rates at which our family income quartile cohorts have surpassed each of the three hurdles on the path to a bachelor's degree is the proportion of each cohort at the finish line with a bachelor's degree in hand by age 24. This calculation involves two hard rates--high school graduation and college participation--plus a softer estimated 4-year college completion rate. So the final product is also labeled as estimated.

In 1997 our estimated proportions of each quartile that earn a bachelor's degree by age 24 are as follows:

Bottom quartile	4.8%
Second quartile	15.2%
Third quartile	21.1%
Top quartile	57.1%

What these data say is that a student from the top quartile of family income is nearly 12 times more likely than a student from the bottom quartile of family income to earn a bachelor's degree by age 24.

Another way of looking at the redistribution of bachelor's degree attainment is to compare 1997 to 1980. Over this time period, the changes in bachelor's degree attainment across family income levels has been:

Bottom quartile	-1.0%
Second quartile	+5.1%
Third quartile	+1.8%
Top quartile	+28.0%

Oh, how nice it would be to just be born rich!

Gender and Race/Ethnicity

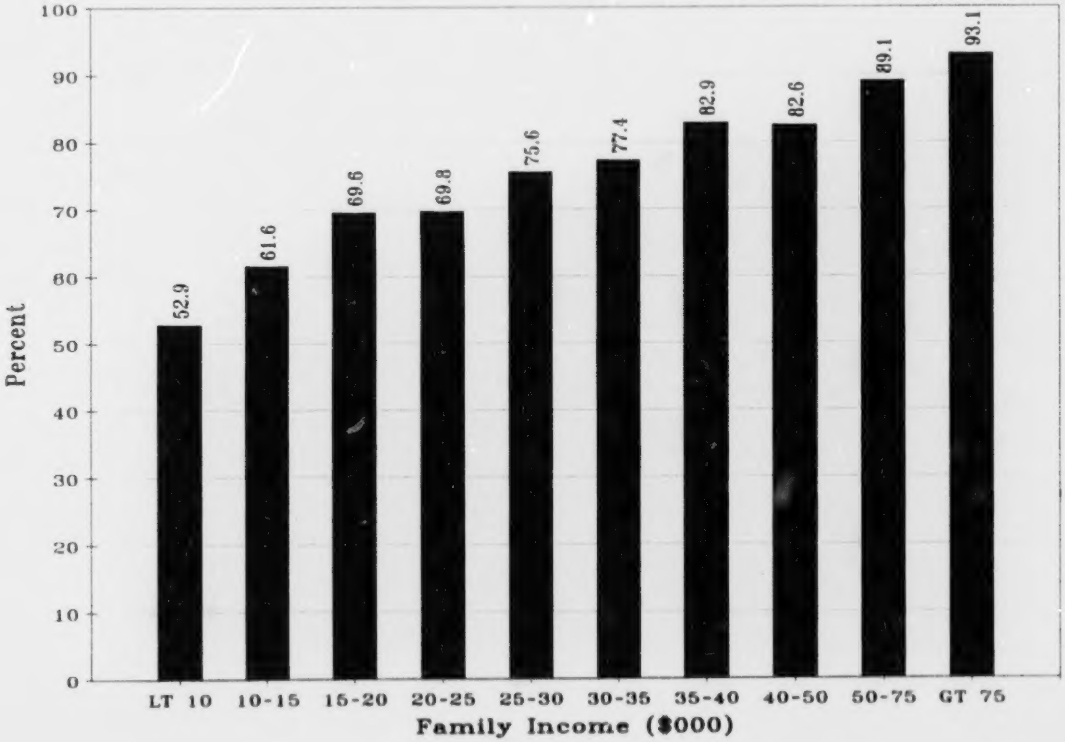
In the remaining sections of this analysis, we analyze educational opportunity across gender and racial/ethnic groups holding constant family income. The purpose of this exercise is to highlight the remaining disparities in high school graduation and college participation between the genders and between the major racial/ethnic groups that cannot be explained by family income. We call these cultural factors, for want of a better term. These remaining disparities indicate that there are other factors beyond family income that foster or impede success in the educational pipeline.

High school graduation. The chart below shows high school graduation rates for dependent 18 to 24 years olds by the family income intervals used by the Census Bureau in the Current Population Reports. This chart shows the expected pattern: high school graduation rates are lowest for those from lowest family income backgrounds, increase with family income, and are highest for those from highest family income backgrounds. They range from 52.9 percent for those whose families earn less than $10,000 per year, to 93.1 percent for those who earn over $75,000.

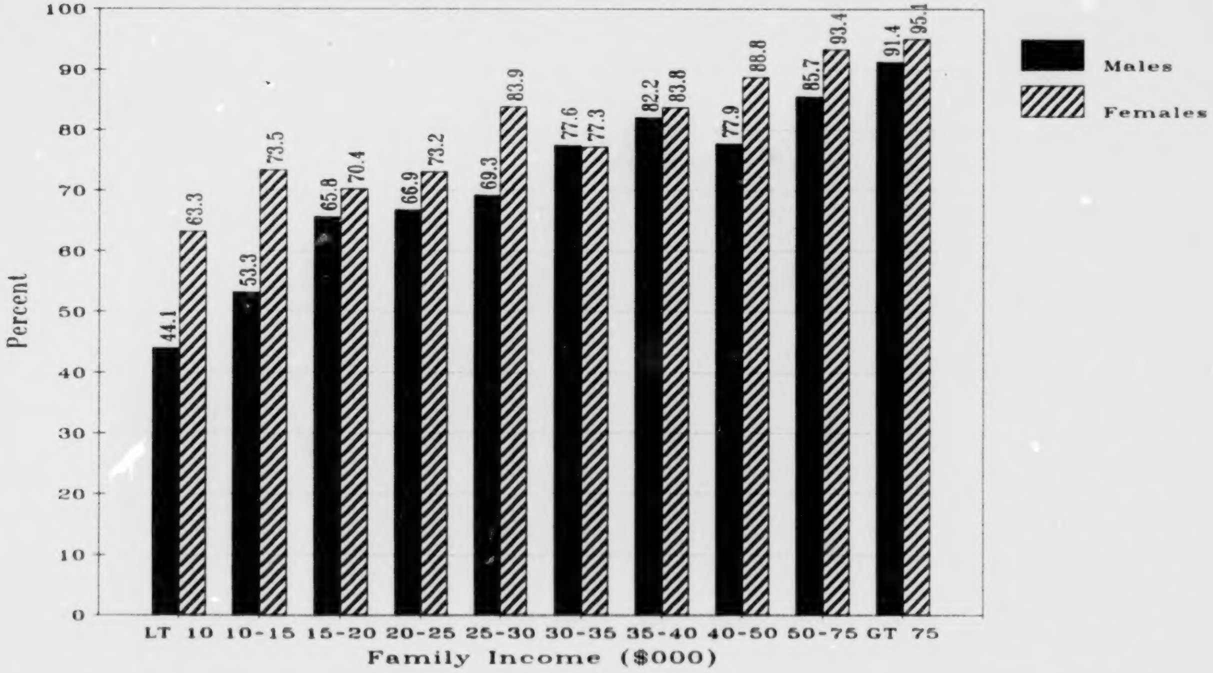
The first chart on the next page disaggregates these data for males and females. Here patterns we have often found in similar data are clear: at nearly every level of family income, but especially the lowest family incomes, females are more likely to graduate from high school than are males.

When these same data are disaggregated by race and ethnicity, familiar (and uncomfortable) patterns emerge. Controlling for family income, non-Hispanic whites and Asians typically graduate from high school at the highest rates, followed by blacks. Hispanics too often graduate from high school at the lowest rates. This seems to be particularly true for Hispanics from families with incomes of more than $35,000 per year in 1997

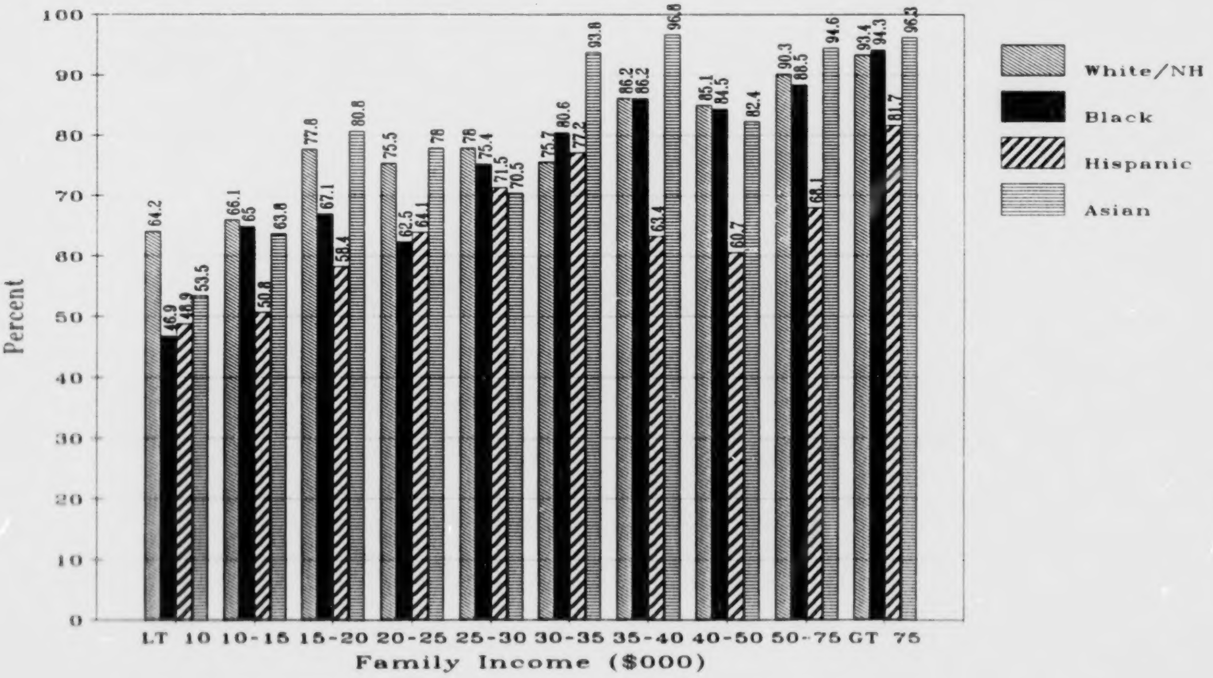
High School Graduation for Dependent Family Members Age 18 to 24, 1997



High School Graduation for Dependent Family Members by Gender, Age 18 to 24, 1997



High School Graduation for Dependent Family Members by Race/Ethnicity, Age 18 to 24, 1997



College participation. The college participation rate is the *rate at which high school graduates continue their educations in college* as dependent family members between the ages of 18 and 24 years. College participation includes those currently enrolled in college, plus those not currently enrolled in college who have completed 1 to 3 years of college, plus those not currently enrolled in college who have completed 4 years or more of college.

In 1997 the rate at which 18 to 24 year-old dependent high school graduates entered college ranges from 50 percent of those from families with incomes of $15,000 to $19,999, to 89 percent of those from families with incomes of $75,000 or more. The usual pattern--with occasional statistical spikes--is that college participation rates among high school graduates increase with family incomes. This is similar to the finding for high school graduation rates.

By gender, as shown in the chart to the right, female high school graduates were nearly always more likely than males high school graduates to continue their educations in college. This finding held for all family income intervals but one, and usually by a substantial margin. Again, differences in rates between males and females tended to be greatest at the lowest levels of family income.

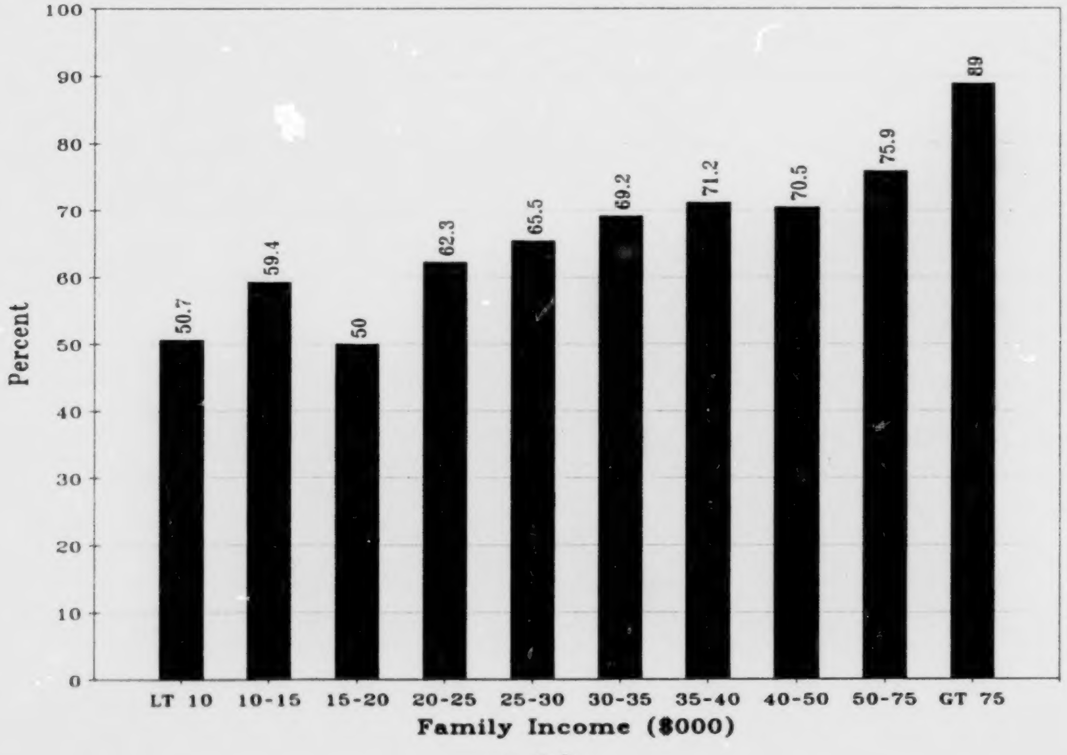
Here too we have divided the population by race/ethnicity into the exclusive groups of non-Hispanic whites, blacks, other race (mainly Asians) and Hispanics. For each group college participation rates tended to increase with family income.

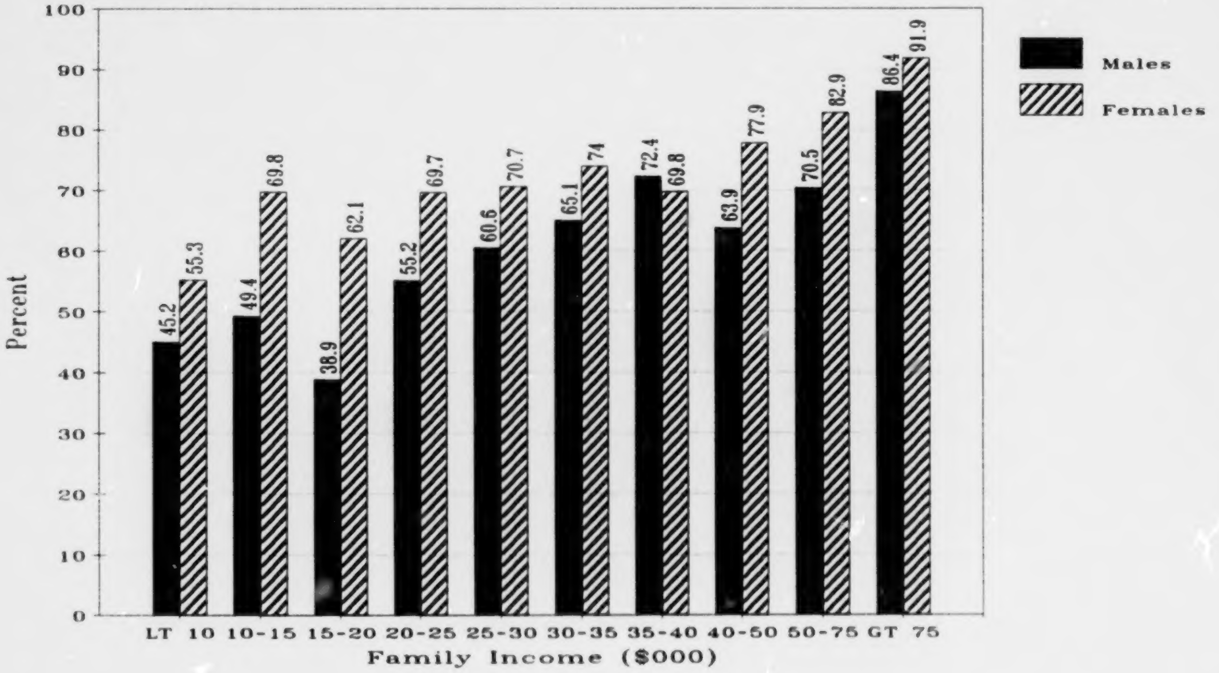
However, holding constant family income, college participation rates varied in interesting ways. Below about $15,000 of family income, non-Hispanic whites had the highest college participation rates. Above that family income level, however, any of the other three minority groups often had the highest college participation rates.

Chance for college. The product of the high school, graduation rate and the college participation rate for those who graduated from high school is the chance that 18 to 24 year olds will reach college.

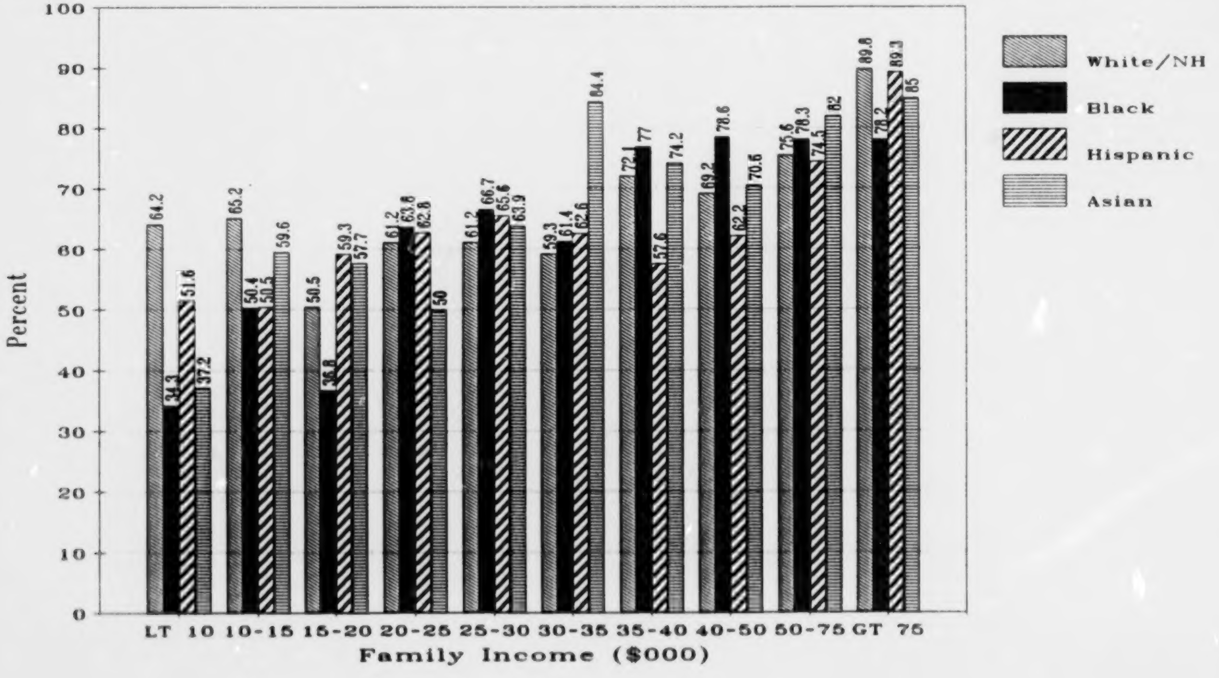
In 1997 the chance for college across family income levels ranged from 26.8 percent for those from families earning less than $10,000 per year, to 82.9 percent of those who came from families with incomes of more than $75,000. This was a three-times difference.

College Participation for Dependent Family Member High School Graduates Age 18 to 24, 1997





College Participation for Dependent Family Member High School Graduates by Gender, Age 18 to 24, 1997



College Participation for Dependent Family Member High School Graduates by Race/Ethnicity, Age 18 to 24, 1997

This powerful relationship between family income and chance for college holds for both males and females, and for each of the four racial/ethnic groups.

By gender the usual pattern holds: at nearly all levels of family income the chance for college for females surpasses the chances for males by wide margins. This margin is greatest among those from families with incomes of $10,000 to $14,999 per year when the rate for females was about twice the rate for males.

By race and ethnicity, generally the Asians were most likely to reach college, controlling for family income. This was followed by non-Hispanic whites. Especially above $35,000 in family income, Hispanics lagged the field in 1997 by a wide margin.

What these data say is that while money is very important, alone it does not explain all group differences in high school graduation and college continuation. Other factors--which we call cultural--are operating too. These factors seem to offer relative advantages to women, whites and Asians. These factors seem to offer relative disadvantage to males and Hispanics.

Other Patterns

In addition of the previous analyses of educational opportunity by family income, the publishes Census Bureau data offer other useful insights into college attendance patterns across family income in 1997. These analyses are limited to questions about the distribution of currently enrolled college students between the ages of 18 and 24 years who are dependent family members..

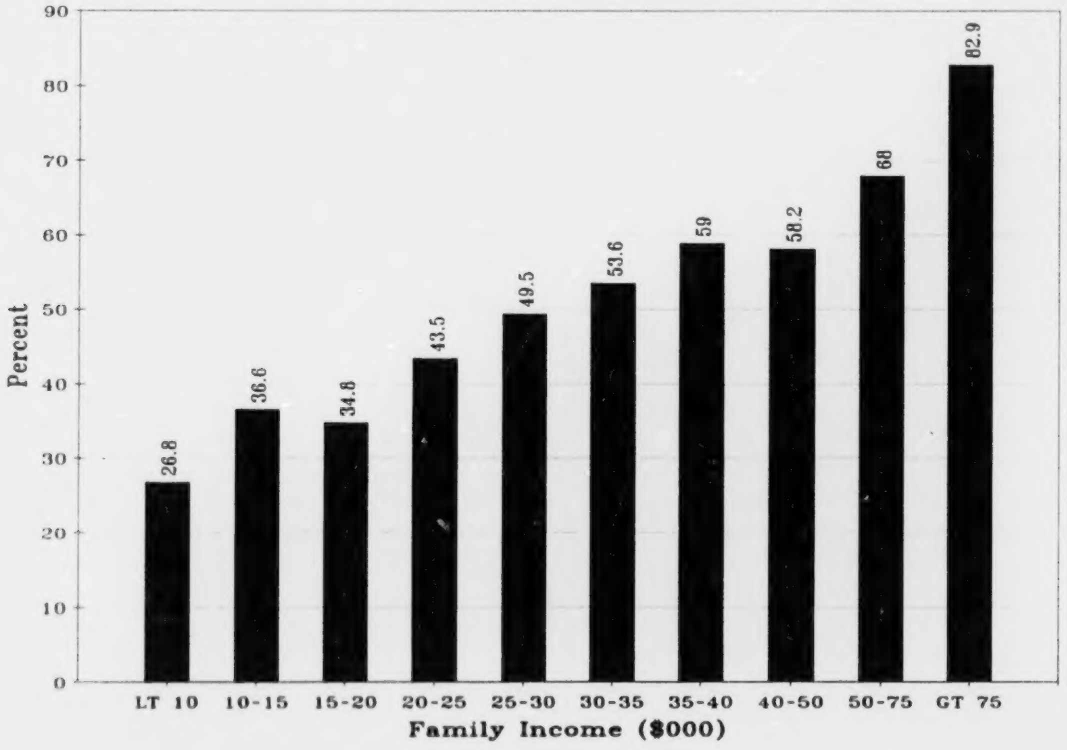
Gender. At lower levels of family income, below about $30,000, males constitute about 45 percent of college students. Males constituted less than a quarter of those enrolled from families with incomes between $15,000 and $20,000.

Above $30,000 family income, the genders are more equally represented. But only in two income intervals--$35,000 to $40,000 and over $75,000 are there more males than females.

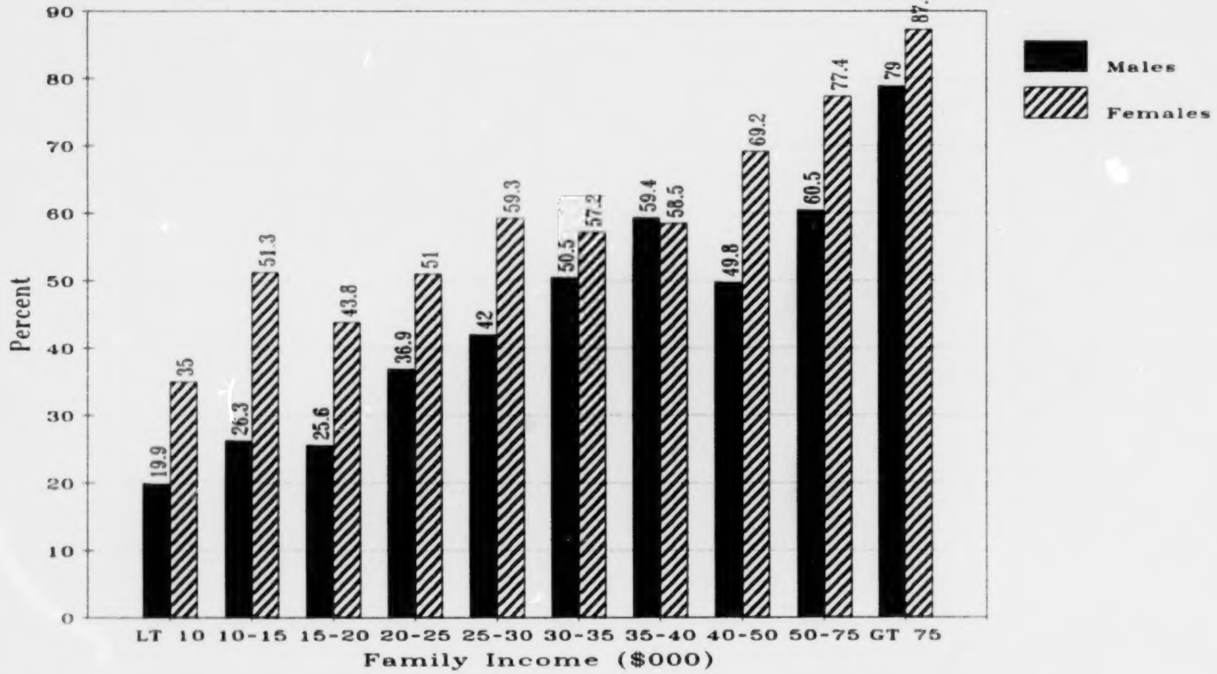
Full-time/part-time status. those most likely to be enrolled full-time came from the lowest family incomes (below $15,000) and the highest family incomes (above $40,000). About 89 to 90 percent of these students were enrolled full-time.

Between $15,000 and $40,000, closer to 80 percent of the students were enrolled full-time. Between $20,000

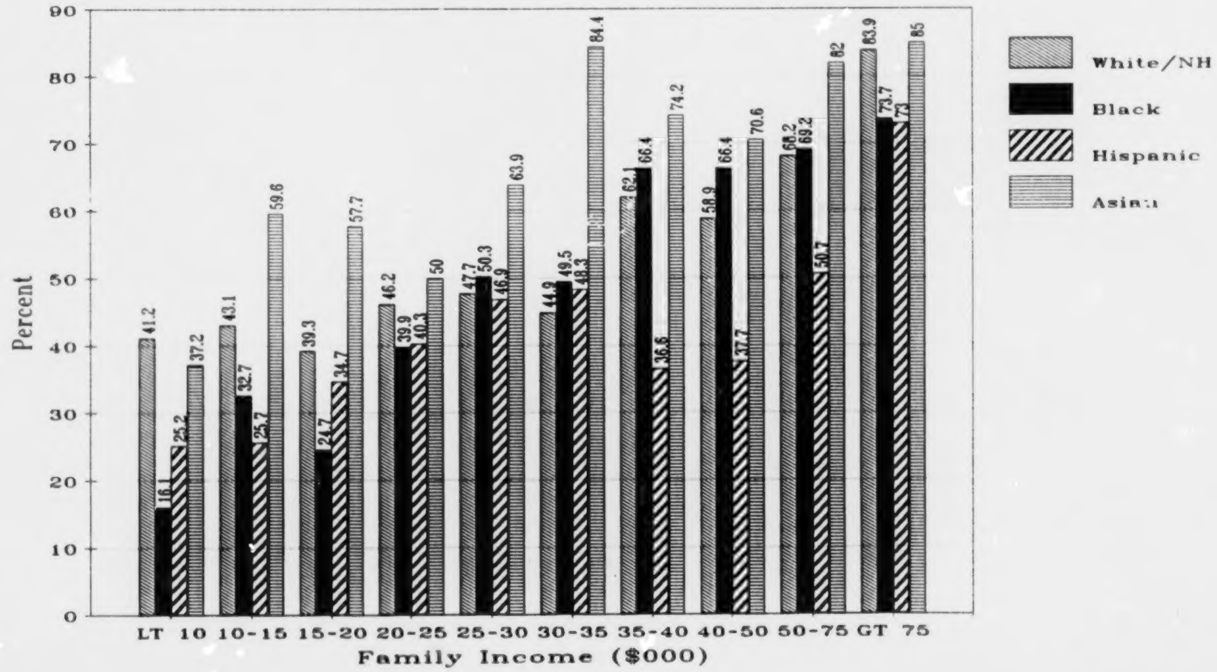
Chance for College for Dependent Family Members
Age 18 to 24, 1997



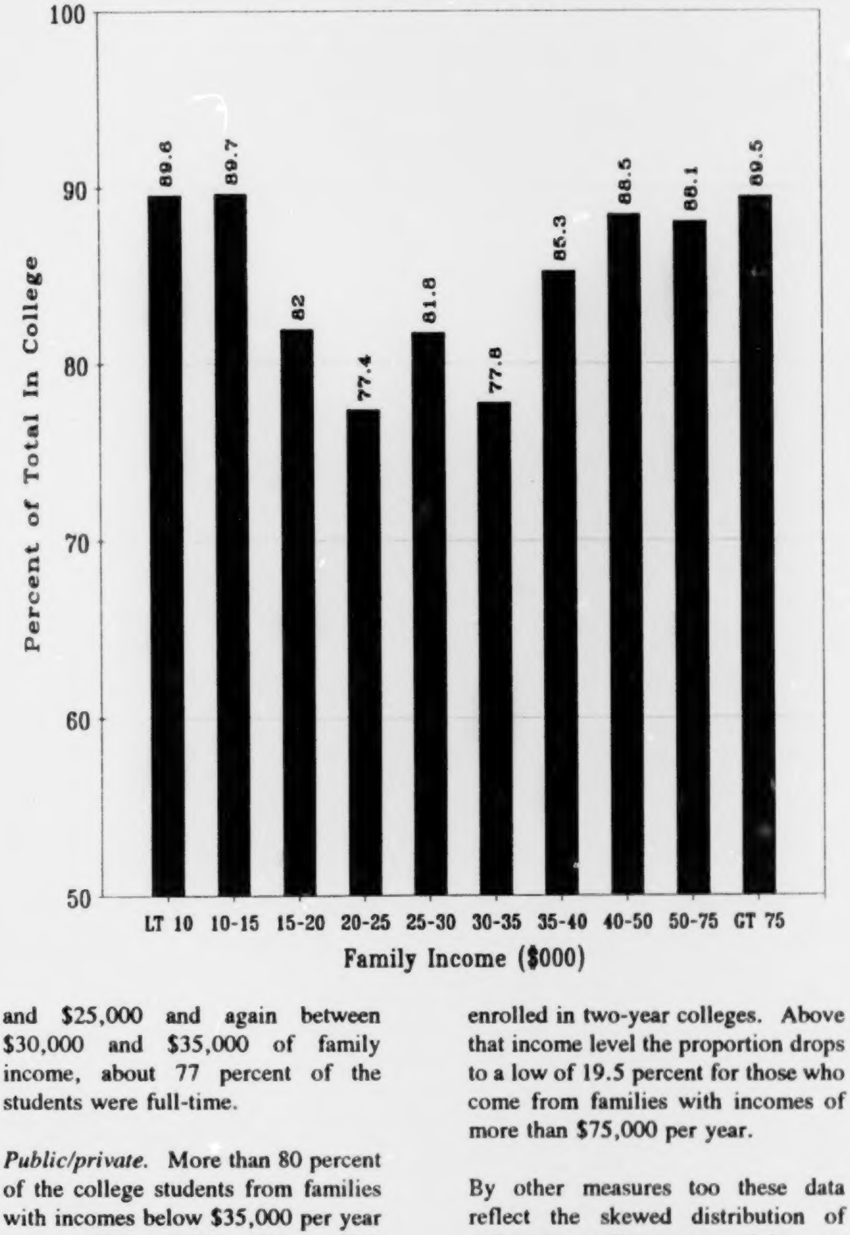
Chance for College for Dependent Family Members by Gender, Age 18 to 24, 1997



Chance for College for Dependent Family Members by Race/Ethnicity, Age 18 to 24, 1997



Full-Time Enrollment for Dependent Family Member Ages 18 to 24 Years, 1997



and $25,000 and again between $30,000 and $35,000 of family income, about 77 percent of the students were full-time.

Public/private. More than 80 percent of the college students from families with incomes below $35,000 per year were enrolled in public colleges. This proportion declined slightly to 74.1 percent enrolled in public colleges above $75,000 in family income.

Two-year/four-year colleges. Up to about $35,000 of family income, more than 40 percent of all students are enrolled in two-year colleges. Above that income level the proportion drops to a low of 19.5 percent for those who come from families with incomes of more than $75,000 per year.

By other measures too these data reflect the skewed distribution of collegiate enrollments toward the most affluent. For example:

- Median family income for all unmarried 18 to 24 year olds in 1997 was $40,932.
- The median for unmarried 18 to 24 year old high school graduates was $47,405.
- The median family income fo dependent family members age 1 to 24 enrolled in college wa $61,754.
- The median family income fo those enrolled in 4-year colleges o universities was $62,991.
- The median family income fo dependent 18 to 24 year olds wh have completed their bachelor' degree or more and were no longe enrolled was $66,750.
- The median family income fo dependent 18 to 24 year olds sti enrolled in universities in their fift year or higher was probably abo $85,000.

Summary

This analysis of recently release Census Bureau data has examine educational participation an attainment across levels of famil income and over time. The finding from this analysis are that:

- At every level of measurement o education, those from lowest famil income backgrounds are lea successful, and those from highe family income backgrounds a most successful.
- This finding holds for male females, non-Hispanic white Hispanics, blacks and those o other race (mainly Asians).
- Moreover, the disparities i educational participation an attainment across family incom levels have grown significantl since about 1980.

At a time and place where income ar living standards are diverging amor Americans, the link provided b education to private welfare is mo important than ever. Education attainment increasingly defines livir standards. These growing dispariti in educational attainment ar participation are further dividing into have lots and have nots. No o thinks that this is a healthy social economic condition for America.

he times, . . . they are a changing

The Changing Face of America

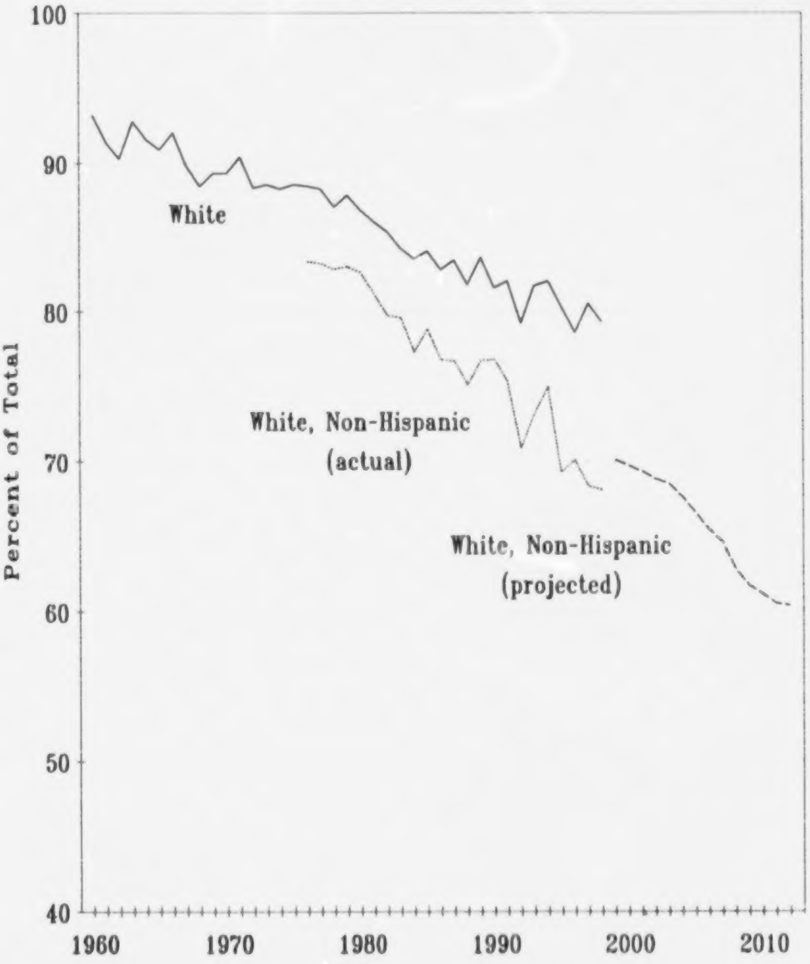
Vhile demographic changes ontinually influence higher education nrollments, perhaps nothing is doing o today as profoundly as is the hanging racial/ethnic structure of the ountry's population. Gradually, the uropean whites that have dominated he American population are being isplaced. In their place are now nore blacks, Hispanics and Asians han ever before. And just as surely s the racial/ethnic character of merica is changing, so too are the oung people that higher education eeks to serve.

These demographic changes are ccurring alongside the relentless, erocious economic changes that define abor market needs for workers and he standards of living available to vorkers and their families. Economic rowth that produces jobs, incomes and living standards is driven by labor orce productivity. Increasingly, that roductivity is driven by more than onesty and hard work. It is driven by ducation and training that enable a vorker to produce more--and hence et paid more--for his/her labor.

These twin driving forces of demographic and economic change ose particular challenges to a higher ducation system built largely by and for the descendants of European vhites. To continue to grow and rosper we must provide at least some form of postsecondary education or raining to nearly every American, ften throughout their adult lives.

At the same time the faces of these Americans have changed and are hanging today, these changes will ontinue into the foreseeable future. That future can be seen reasonably learly for the next 18 years since hese future college students have lready been born.

White High School Graduates
1960 to 2012



Nearly 40 years ago, in 1960, 93.2 percent of all high school graduates were white. The remainder of 6.8 percent were non-white, meaning they were of other races such as black, American Indian and Asian. (Hispanics may be of any race, but most are whites. Hispanic is an ethnic identification.)

By 1998, whites were 79.3 percent of the high school graduates, and non-Hispanic whites were 68.1 percent of the total. Thus in just 38 years using the Census Bureau's terms of the times the minority share of high school graduates had grown from 7 to 32 percent.

Projections of high school graduates by race/ethnicity indicate that these trends will continue. The Western Interstate Commission's report *Knocking at the College Door:*

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Projections of High School Graduates by State and Race/Ethnicity, 1996-2012 show that the minority population of high school graduates will grow about 40 percent by 2012.

Thus, in just about 50 years the racial/ethnic character of the high school graduate population will have gone from 7 to 40 percent minority. Between 1976 and 2012:

- Non-Hispanic whites will go from 83 to 60 percent of all high school graduates.
- Blacks will go from 11 to 14 percent of the high school graduates.
- Hispanics will go from 5 to 19 percent of high school graduates.
- Those of other race--including Asians and American Indians--will go from 1 to 7 percent of high school graduates.

Obviously, there is a strong regional character to these demographic changes. In regions where blacks, Hispanics, Asians and American Indians are already large, they will become even larger. But in every region of the country, non-Hispanic whites will grow at a lower rate than will each of the racial/ethnic minority groups in those regions.

Inevitably this affects higher education. As the faces change at college fairs and in applicant pools, so too will they change in the freshman class and undergraduate student body. These changes will produce internal pressures for accommodation of diversity and meeting new cultural expectations that are and will continue to affect institutional life. The complexions of faculty and institutional leadership will change either in response to or in anticipation of these changes among students.

Just as the white European immigrants displaced the American Indians across the land, so now too are the descendants of these immigrants being displaced by newer immigrants pursuing their American dreams.

This evolutionary demographic shift occurs at the same time that economic growth and development requires better educated and trained workers than have ever been needed before. More educated, better educated, continuously educated.

The challenge to higher education is to do more for new populations that look different than those that have filled college classrooms for generations.

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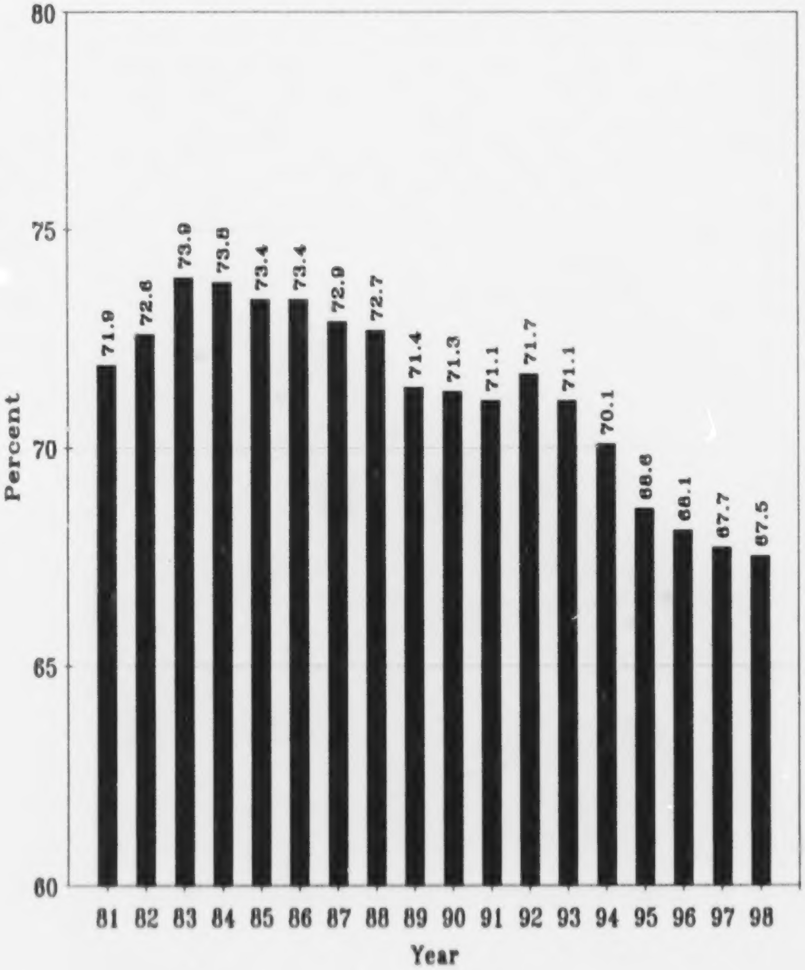
The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 87 **www.postsecondary.org** **September 1999**

Raising the bar . . . . . . to high school graduation

Tracking High School Graduation
1970 to 1998

Public High School Regular Graduation Rate
1981 to 1998



In 1983 the report A Nation at Risk *was released. The report decried the lack of academic content in the high school curriculum. Thus began what has become the "standards movement" in K-12 education. Raising high school graduation requirements through increased academic course-taking and high-stakes testing have been the public policy responses. For six years our Secretary of Education has preached his mantra of "high standards and expectations" of students.*

Among the casualties of the standards movement has been high school graduation rates. They have been dropping since 1983 when the Nation at Risk *report first appeared, and they have been dropping at an accelerated rate since 1993 when Secretary Riley took office. Instead of moving the country toward a 90 percent high school graduation rate by the year 2000, as the Governors and President decided we should do back in 1990, fewer students are graduating from high school by the traditional path and more are leaving high school and pursuing alternative educational paths.*

There are now effectively four distinct quality levels or tracks of high school graduation in the United States. Depending on the level from which a student graduates from high school, different postsecondary educational opportunities are available. These educational opportunities determine, to a very large degree, the income, jobs and living standards that the student will live at throughout his or her adult life.

These four educational tracks produce four distinct forms of high school graduation:

- *College preparatory diploma.* This

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is awarded to students who complete the high school curriculum defined and advocated by the 1983 study *A Nation at Risk*. Four-year colleges in particular are mainly interested in students who have completed this curriculum in high school. Some states provide special diplomas with this or similar names that designate this curriculum completed by high school graduates. Some states require completion of this curriculum for admission to public universities.

- *Regular or standard high school diploma.* This is the traditional high school certification and is based largely on Carnegie Units of academic subjects in high school. Some states have been increasing graduation requirements for this diploma too. This represents a shrinking share of high school graduates.

- *Alternative credential.* This is a means for those who need a high school credential for further schooling or employment to acquire one outside of the traditional high school. Common examples include the GED, but other extension and testing avenues are available. This appears to be a growing share of diplomas awarded.

- *Certificate of attendance.* These are awarded to students who put in their four years of seat-time, but do not complete the Carnegie units required of graduates. Should these students try to pursue postsecondary education they will be required to pass an ability-to-benefit test to qualify for federal student financial aid benefits. A growing share of public high school seniors are not graduating but probably receiving certificates of attendance.

In the United States we say we do not assign students to educational tracks early in life that will limit their life's prospects. But in fact we do--we have, we are today and we are strengthening this tracking system for tomorrow. This is a major part of the standards movement in K-12 education. What we are saying by this tracking system is that years before high school graduation a student's adult welfare is being determined. Long before most young people are capable of making choices about their lives, and often without parents' full knowledge or consent, educational decisions that determine living standards are being made for young people by others.

This tracking system has loud implications for defining social class in the United States. Early educational tracking is a basic social device for sorting out the lives of young people into paths that define and separate us academically, vocationally, economically, socially, racially, residentially and in other ways. This definition, separation and division makes it more difficult to unite us as one nation in any other sense than we just happen to live within the same borders.

The education standards movement that produces this tracking system helps explain the apparent substantial decline in public high school graduation rates since 1983. This decline has accelerated since 1993. A steadily and rapidly shrinking share of public high school students are receiving regular or college preparatory high school diplomas. The public high schools of the United States are awarding a steadily and rapidly shrinking share of the high school diplomas being awarded in the United States. Students for whom the present public high schools are not working appear to be pursuing other means of gain their certification they require for further education and careers.

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Mission Statement

This research letter is founded on tw fundamental beliefs. First, sound public soci policy requires accurate, current, independen and focused information on the huma condition. Second, education is essential to th development of human potential and resource for both private and public benefit. Therefor the purpose of this research letter is to infor those who formulate, fund, and administ public policy and programs about the conditio of and influences that affect postsecondar education opportunity for all Americans.

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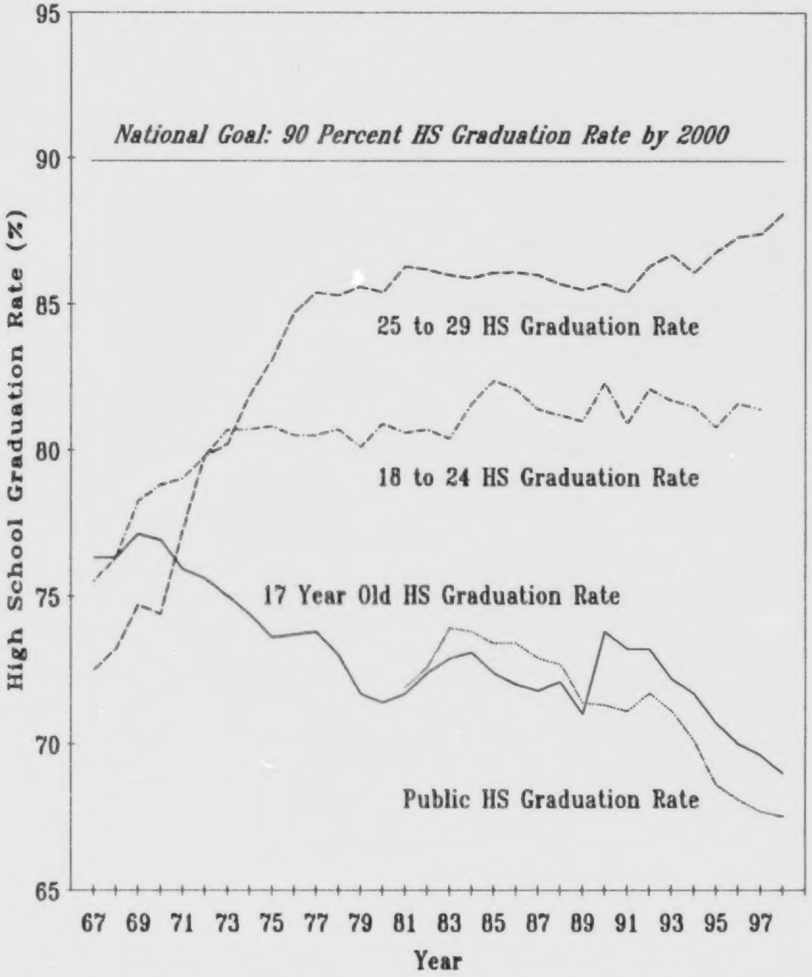
The public policy processes at work here are complex:

- Whether by international comparisons or feedback from employers, there is a perception that American school children are not performing well enough to meet employers needs.
- In 1990 the nation's governors met in Virginia and set national educational goals, among which was a 90 percent high school graduation rate by the year 2000.
- The educational standards movement that seeks to boost student performance to higher levels involves raising the bar for graduation by such devices as high-stakes testing and raising high school graduation requirements.
- Opposition to "social promotion" involves grade retention.
- Few states have fully addressed the inequities of property tax-based financing of K-12 education.
- "Separate but equal" educational systems supporting racial segregation remain a hot legal issue decades after the issue was first addressed in the courts.

Various High School Graduation Rates
1967 to 1998



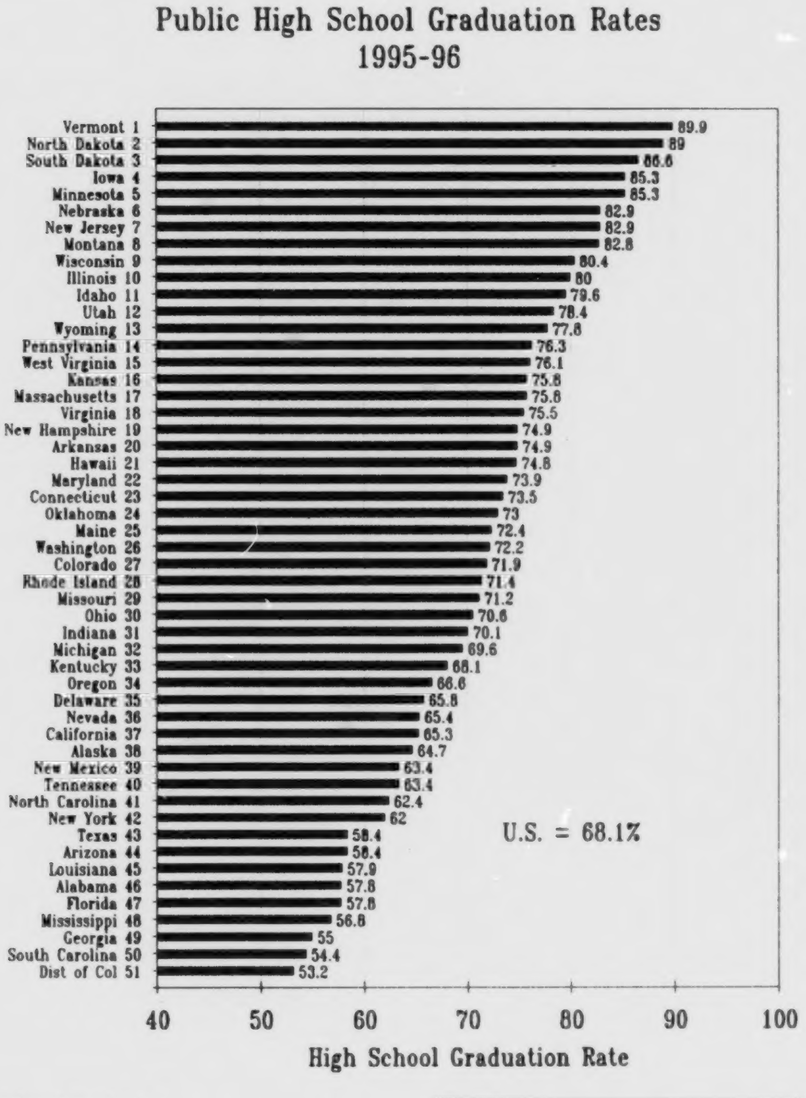
Without probing the sociological dimensions of the secondary educational processes of tracking as deeply as they deserve, we attempt here a preliminary description of the meaning of high school graduation. Our interests are guided by our preoccupation with opportunities for postsecondary education and training for young people. That postsecondary education, or lack thereof, largely determines the welfare of individuals, families, communities, states and the country. In today's ferocious economic climate in the United States, education determines income and living standards. So who gets what education is a matter far too important to be determined by prejudice, inequity, social class origins, accidents of birth, misinformation, partisan politics, political pandering, yellow journalism or any of the other malignancies that plague public policy appropriately focused on designing systems and providing resources for investment in our future human welfare.

The Data

There are many sources of data on high school graduation in the United States. They always conflict with each other. The data from different sources are collected in different ways, at different times, under varying definitions. These collection differences produce different reported results that beg for clarification.

The two major collections of data on high school graduates are the Common Core Survey of the states for K-12 education administered by the National Center for Education Statistics (NCES), and the Census Bureau's Current Population Survey (CPS).

- The NCES data are published in the annual *Digest of Education Statistics*, various Ed Tabs reports, and other places. They are also available from the NCES website at NCES.ed.gov. NCES does not count GED recipients as high



school graduates

- The Census data are published in the P20 series of the Current Population Reports, and on the Census Bureau's website. Census counts GED and other alternative credentials as high school graduates.

In addition there are several other important data sources. The Western Interstate Commission on Higher Education (WICHE) collects data from states for the purpose of projecting high school graduates.

Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1996-2012. (February 1998). Boulder, Colorado: Western Interstate Commission for Higher Education and The College Board. For sale by WICHE at (303) 541-0200.

The American Council on Education administers the Tests of General Educational Development (GED), which is a high school equivalency certificate, and publishes an annual statistical report on GED testing in the United States and Canada.

GED Testing Service. *Who Took the GED? GED 1997 Statistic Report.* (1998). Washington, DC: American Council on Education. For sale from ACE at (202) 939-9490.

Other organizations offer testing and coursework leading to alternative high school certification. A useful description of these alternatives appears in:

Green, K. "Nontraditional Education: Alternative Ways to Earn Your Credentials." *Occupational Outlook Quarterly*. Summer 1996. Bureau of Labor Statistics.

Here our analysis uses published data from the major data sources in an attempt, albeit incomplete, to describe high school graduation trends and patterns.

Tier 1: College Preparatory Diploma

In 1981 Secretary of Education T. H. Bell appointed the National Commission on Excellence in Education with a charge to examine and report on the quality of American education. In 1983 the report of the Commission appeared: *A Nation at Risk: The Imperative for Educational Reform*. This report recommended a challenging high school curriculum to prepare young people for the educational and academic worlds they would encounter after graduation. The Commission recommended that every high school student take a New Basics curriculum in high school consisting of 4 years of English, 3 years of mathematics, 3 years of science, 3 years of social studies and one-half year of computer science. In addition, college-bound students should also take 2 years of a foreign language.

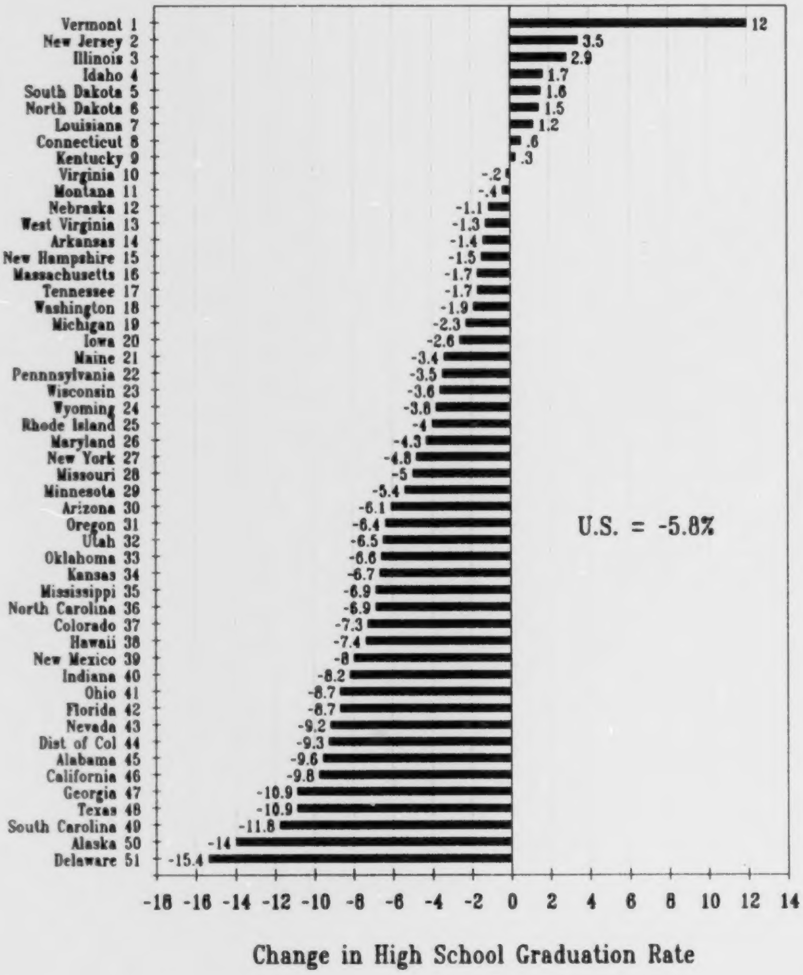
The complete report of the Commission is available online at: www.ed.gov/pubs/NatAtRisk/title.html

State adoption of higher high school graduation standards has followed. This affects both regular high school diplomas as well as college preparatory diplomas. According to the National Center for Education Statistics, 13 states have created a separate category of high school diploma for those who have completed a state-defined college prep curriculum in high school. These states are: **Arkansas, Hawaii, Indiana, Kentucky, Louisiana, Missouri, New York, North Carolina, Oklahoma, Rhode Island, South Carolina, Tennessee and Virginia.**

The diplomas they offer carry such names as Regents Diploma (NY), Commonwealth Diploma (KY), University Preparatory (TN), Advanced Studies (VA), or simply College Preparatory Certificate (MO). Sometimes these are curriculum based, and in other cases performance based. But they all carry value beyond that of a regular high school diploma from which they are distinguished in the above states.

Following release of *A Nation at Risk*, several research efforts were mounted to monitor the course-taking patterns of high school graduates with respect to this curriculum.

Change in Public High School Graduation Rates 1983 to 1996



- The National Center for Education Statistics reported on course taking patterns of high school graduates from various transcript analyses for 1982, 1987, 1990 and 1992. These studies showed large gains in the proportion of high school graduates completing the New Basics curriculum, from 12.7 percent in 1982 to 46.8 percent by 1992. These gains occurred for all racial/ethnic categories, both genders, and in both public and private high schools.
- The ACT assessment has always tested student performance in the subject areas of English, mathematics, social studies and science. ACT initially demonstrated the relationship between high school course-taking and student performance on each of the four subtests that comprise the ACT Assessment. The relationship between the number of courses taken and subtest score was strongest in math and science, and weaker but still significant in English and social studies. ACT now reports its score data separately for those who completed the New Basics curriculum (which ACT calls Core Coursework), and those who did not.

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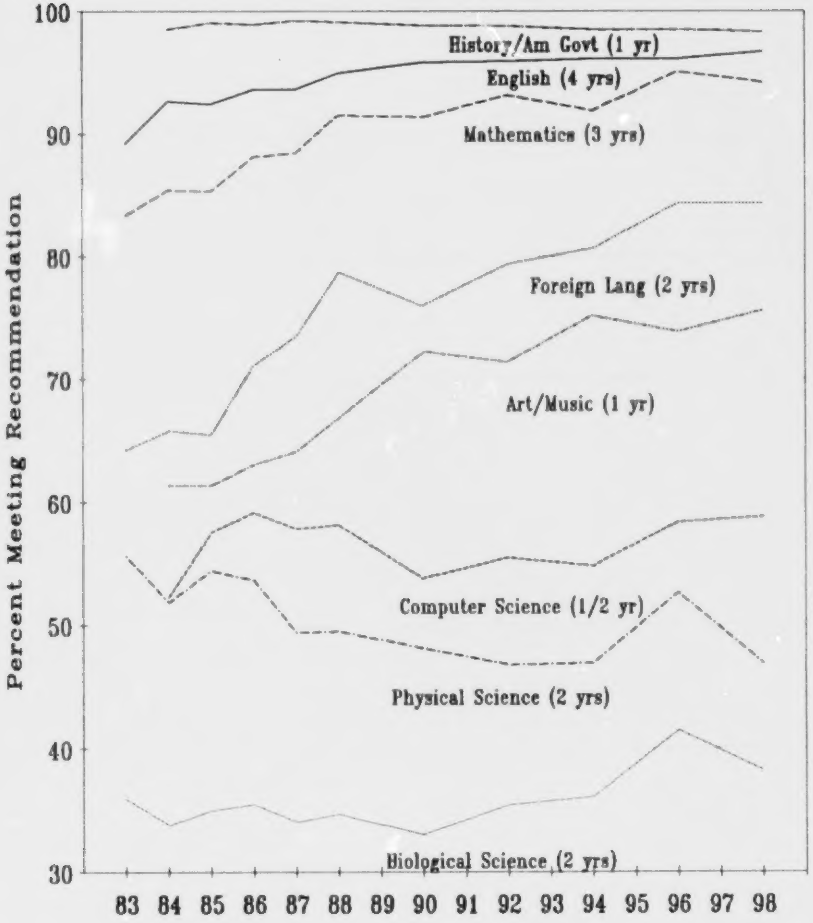
College Freshmen Having Met or Exceeded Recommended Years of High School Study 1983 to 1998



As reported in OPPORTUNITY, the proportion of college bound high school seniors who took the ACT and completed ACT's Core Curriculum increased from 37.9 percent in 1987 to 61 percent by 1997.

- The annual UCLA survey of American college freshmen has reported high school course-taking since 1983, from the perspective of the New Basics curriculum. Generally, the Freshman Survey shows growth (often substantial) in the proportion of college freshmen reporting that they have taken math (3 years), English (4 years) and foreign language (2 years). The gains in sciences have been modest and more recent.

All of these monitoring efforts demonstrated a widespread positive response to the challenge to increase academic rigor and challenge in the high school curriculum. They were last analyzed and reported in the December 1997 issue of OPPORTUNITY (#66, available on our website).

More recent data suggests that these improvements in academic course taking patterns continue, although at a somewhat slower pace than occurred prior to about 1995.

Thus far, short of the testing companies, very little data is regularly reported on the proportion of high school graduates completing the college preparatory curriculum recommended by the National Commission on Excellence in Education. Those that complete the New Basics college prep curriculum are included with other regular high school graduate counts.

Tier 2: Regular or Standard High School Diploma

The regular high school diploma has been caught up in the state efforts to increase student performance as well. A few states have increased the number of Carnegie units required for graduation. These include **Alabama, South Carolina and Wisconsin.**

Also widely used by states are minimum competency testing for a variety of purposes. As reported by the Council of Chief State School Officers for the fall of 1996, these purposes included (with the number of states using testing for these purposes in parentheses):

- Student diagnosis or placement (26)
- Improvement of instruction (43)
- Program evaluation (38)
- Student diagnosis or placement(10)
- Student promotion (5)
- High school graduation (17)
- Student awards or recognition (8)
- Public school performance reporting (33)
- Accreditation (11)
- Other (e.g. high school skills guarantee, endorsed diploma, honors diploma)

Declining public high school graduation rates. As shown in the chart on page 1, the rate at which ninth graders in public high schools reach regular high school graduate status has been declining since 1983, the year the *Nation at Risk* report appeared. In 1982-83 73.9 percent of the original ninth grade cohort became regular high school graduates. By 1997-98 this had dropped to 67.5 percent.

This decline in the public high school graduation rate converts directly to the increased number of 1997-98 high school dropouts. Out of the 3,604,115 ninth graders in the fall of 1994, 2,433,373 became regular high school graduates. Or, 1,170,742 dropped out (or failed to complete high school graduation requirements).

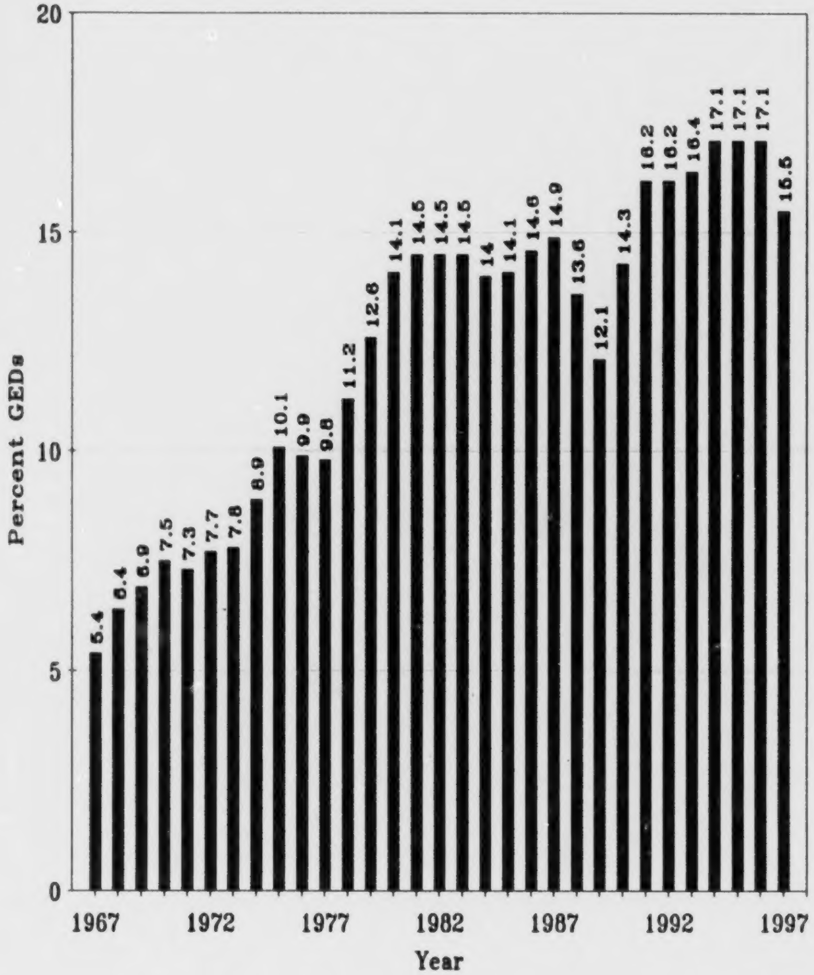
If the original cohort had graduated from high school at the 1982-83 rate, 2,663,441 would have become high school graduates. The decline in the high school graduation rate between 1983 and 1998 meant that 230,068 additional ninth graders failed to reach regular high school graduation.

States. The public high school graduation rate for 1995-96 is shown for each state in the chart on page 4. The state rates ranged from 89.9 percent in **Vermont** to 53.2 for the **District of Columbia**. For 1995-96 the rate for the U.S. stood at 68.1 percent.

The chart on page 5 shows the change in the public high school graduation rate in each state between 1983 and 1996. While the national rate was declining, it actually increased in nine states during this period: **Vermont, New Jersey, Illinois, Idaho, South Dakota, North Dakota, Louisiana, Connecticut** and **Kentucky**.

But in the other 41 states plus DC, the rate declined. It declined the most--more than 10 percent--in **Delaware, Alaska, South Carolina, Texas** and **Georgia** between 1983 and 1996.

Proportion of High School Graduates Awarded GED
1967 to 1997



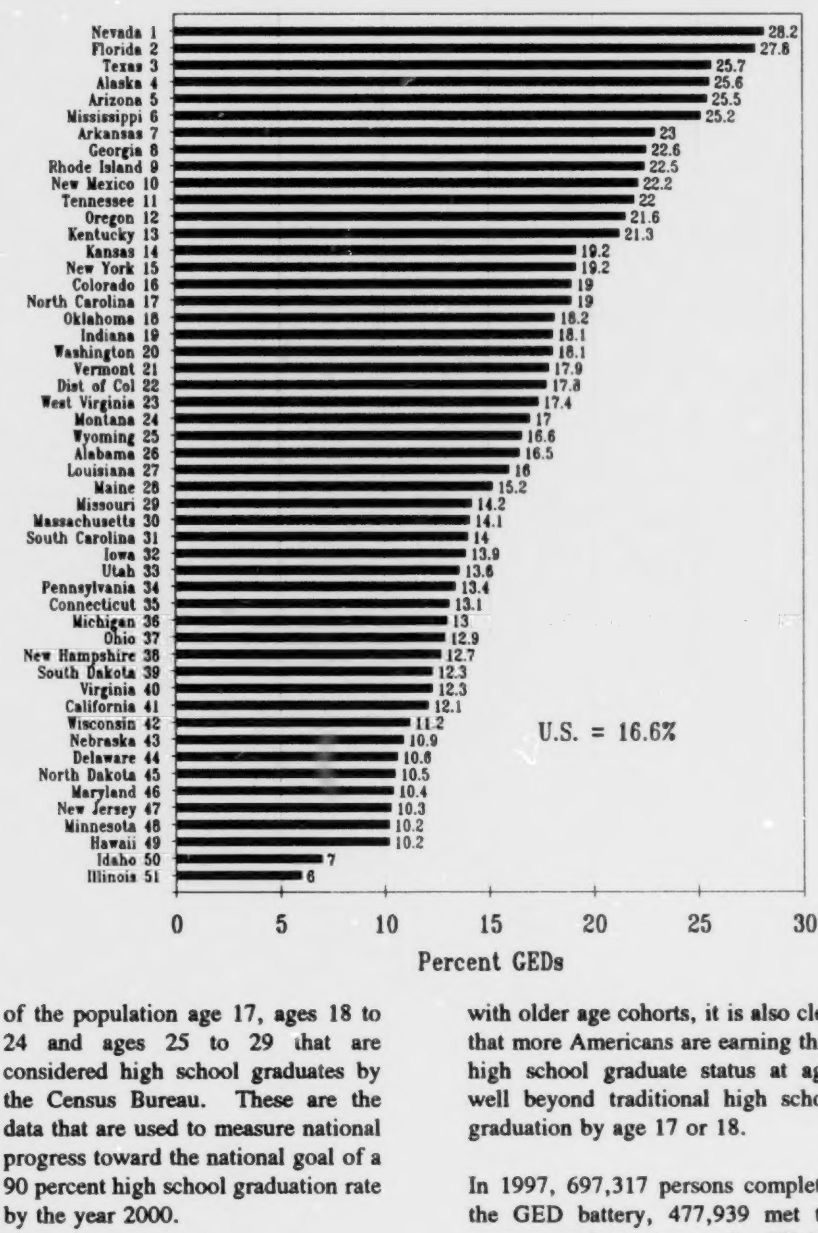
Tier 3: Alternative High School Certification

Americans have more than traditional high schools through which to pursue high school graduate status. Foremost among these is the Tests of General Educational Development or GED. But there are several others as well.

GED. The Tests of General Educational Development (GED) is a series of five tests that cover writing skills, social studies, science, interpreting literature and the arts, and mathematics. They are designed to demonstrate a level of proficiency comparable to that of high school graduates. The tests were developed in 1942 to provide a way for returning WWII veterans to earn a high school credential. The program is administered by the American Council on Education through its Center for Adult Learning and Educational Credentials.

The GED recipient is counted as a high school graduate by the Census Bureau in the Current Population Survey. The CPS data are used in the chart on page 3 to show the proportion

Proportion of High School Graduates Awarded as GEDs
1996



of the population age 17, ages 18 to 24 and ages 25 to 29 that are considered high school graduates by the Census Bureau. These are the data that are used to measure national progress toward the national goal of a 90 percent high school graduation rate by the year 2000.

In this is chart it is clear that a declining share of the population has earned its high school graduate status through high schools. A growing share is earning this status through alternative means. Moreover, because the high school graduation rate rises with older age cohorts, it is also clear that more Americans are earning their high school graduate status at ages well beyond traditional high school graduation by age 17 or 18.

In 1997, 697,317 persons completed the GED battery, 477,939 met the score requirements, and 470,977 credentials were issued in the United States and its territories. (The GED is also administered in Canada and various U.S. military and correctional institutions.) This compares to about 2,360,000 diplomas issued by public high schools, and 267,000 diplomas issued by private high schools.

In January 1997 31 jurisdictions raised their minimum score requirements to meet GEDTS' increased minimum passing score requirements of 40 and 45. This means that all GED graduates must meet a standard that exceeds the performance of at least 33 percent of graduating high school seniors.

About 1.5 percent of adults without high school diplomas took the GED battery of tests. The rates were highest in **Alaska** (4.0%), **Utah** (3.5%), **Nevada** (2.6%), **Washington** and **Idaho** (2.5%). The rates were lowest in **California** (0.9%), **Delaware and Louisiana** (1.0%), and **North Dakota and South Carolina** (1.1%).

In 1997 about 15 percent of the of all high school credentials were issued through the GED program. As shown in the chart on page 8, this proportion has tripled since 1967. Across the states, the GED proportion of all high school diplomas awarded ranges from 6 percent in **Illinois** to 28 percent in **Nevada**, as shown in the chart on page 8.

Those who take the GED battery have an average age of 24.5 years. About 30 percent are 18 years or less, and thus could be viewed as high school dropouts who took the GED instead of staying in high school to earn their diplomas. About 22 percent are 30 years or older. In most participating jurisdictions, the minimum age to issue GED credentials is at least 18 years.

The average grade completed by GED test takers is 9.8. Only 5 percent of test takers completed the twelfth grade. About a third completed the eleventh grade, 30 percent completed the tenth grade and 20 percent completed the ninth grade.

GED test takers cite a variety of reasons for taking the GED. The most important is because they are planning further study. In 1997 about 65 percent of those who took the GED cited this reason, up from about 37 percent in 1980. In 1997 about 27 percent of those tested cited employment as their reason for taking the GED.

Alternatives. The National External Diploma Program is an alternative to the GED. Adults must show mastery of 65 competencies in eight areas: communication, computation, occupational preparedness, and self, social, consumer, scientific and technological awareness. At least 14 states participate in this program.

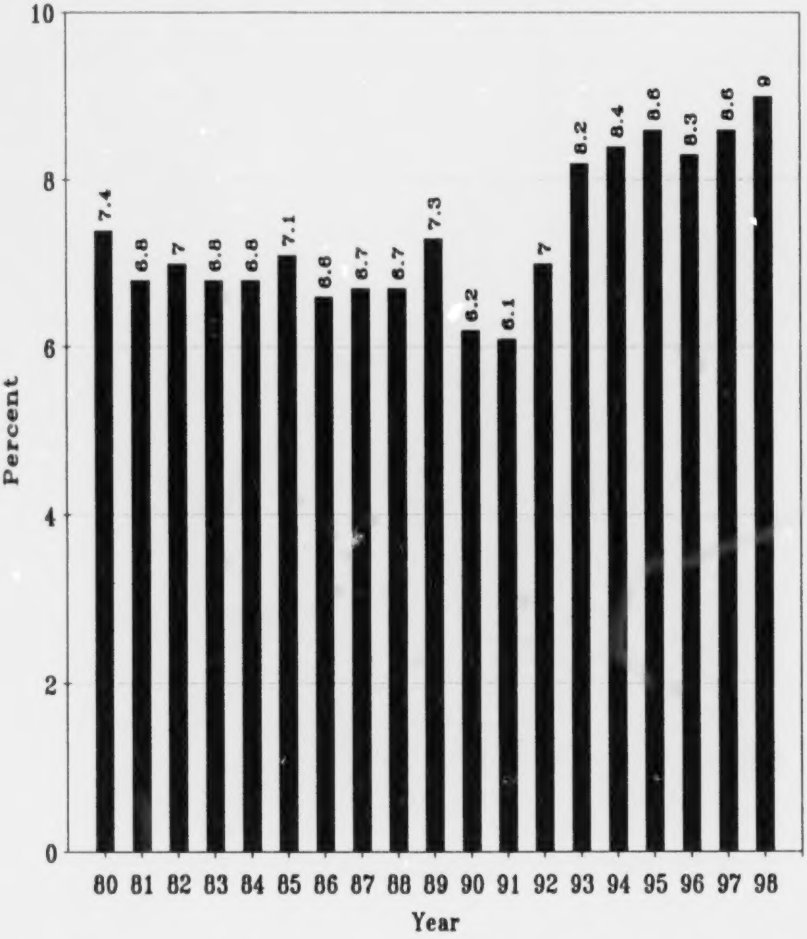
There are also about a dozen accredited courses of study for earning a high school diploma by correspondence or distance study. These programs may be run privately, by a higher education institution or by a state agency.

Tier 4: Certificate of Attendance

One of the more perplexing phenomena in public high school graduation analysis is the large and growing proportion of high school seniors who do not graduate. These students put in their twelve years of seat time but do not receive regular high school diplomas.

As the chart on this page shows, between 6 and 7 percent of all fall term public high school seniors did not receive high school diplomas between 1980 and 1991. This proportion generally declined during this period. But between 1991 and 1998 this proportion jumped suddenly and sharply, from 6 to 9 percent and appears to be continuing to increase.

Proportion of Fall Seniors in Public High Schools
Not Receiving Regular High Diplomas
1980 to 1998

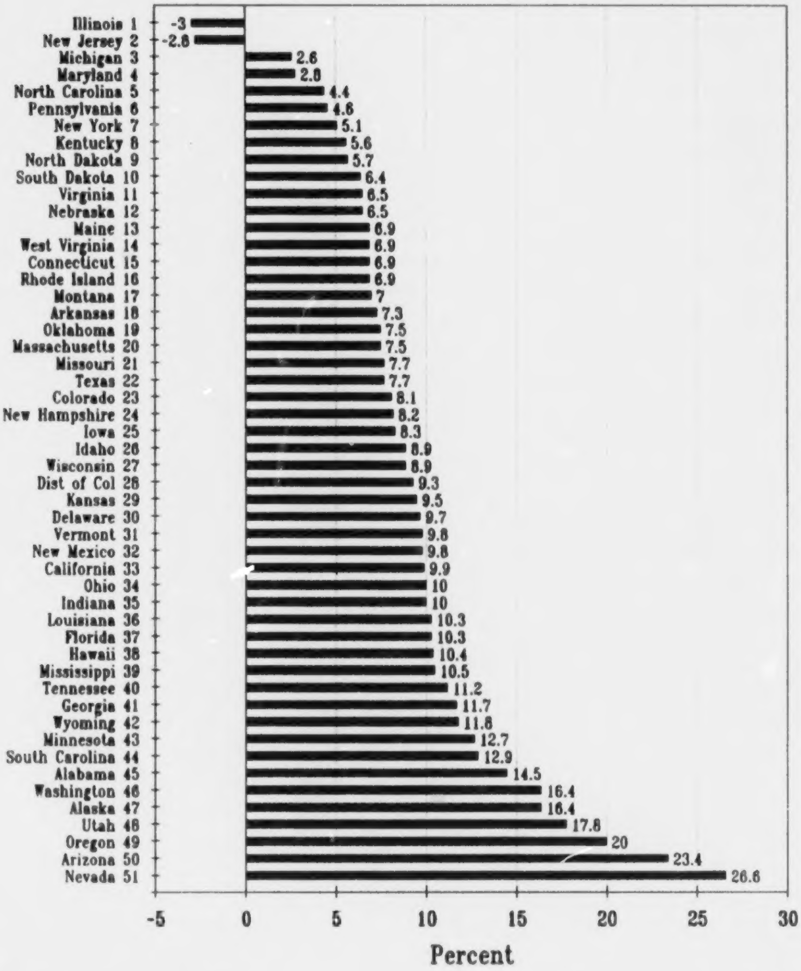


Each year several hundred thousand students who start the senior year of high school fail to receive regular high school diplomas by the end of the year. For example, in public high school in the fall of 1997 there were 2,673,067 students enrolled. However, for the 1997-98 academic year, there were only 2,433,373 regular high school diplomas awarded. The difference is 239,694 students. This is the largest number on record since 1980. Until 1994 the number of fall term seniors who did not receive regular high school diplomas generally stayed well below 200,000 nationally per year. However, between 1991 and 1998 this number increased by 65 percent.

Ability-to-benefit tests. Students who do not graduate from high school or subsequently earn a GED may still attend college and receive federal student financial aid to help pay college attendance costs. These students must take and achieve a passing score on any one of several federally-approved tests that measure ability to benefit from college.

Many states offer other kinds of diplomas. The largest of these, by far, is **California**, which alone offered three-quarters of the national total in 1994.

Proportion of Fall 1995 Seniors Not Receiving Regular High School Diplomas in 1995-96 by State



Findings and Conclusions

First, the rate at which ninth grade students in public high schools reach regular high school graduation has declined sharply since 1983, from 73.9 to 67.5 percent by 1998. This means that in addition to the 941,000 fall 1994 ninth graders who dropped out of high school before graduation (at the 1983 rate) an *additional* 230,000 ninth graders did not graduate due to increased attrition.

The decline in the high school graduation rate began in 1984 following the report of the National Commission on Excellence in Education *A Nation at Risk* which advocated making the high school curriculum far more rigorous than it had become. While a growing share of those who became high school graduates rose to the challenge and completed the college preparatory curriculum after 1983, a growing share of high school students were lost before graduation through attrition.

The rate of decline in the public high school graduation rate accelerated after 1992 when Richard Riley became Secretary of Education and initiated his agenda of high expectations and standards for student performance. In fact high school graduation standards were set, sometimes set at different levels for different diplomas, and raised further in a few states. However, between 1983 and 1997 the proportion of Gross Domestic Product spent on elementary and secondary education in the United States declined from 31.6 to 29.7 percent of GDP.

One is left pondering the likelihood that the educational standards movement has had the effect, if not the intent, of socially stratifying American society. In a country plagued by ever-widening income inequality, educational standards have and are performing a role of tracking young people from different economic and social strata into different forms of high school education, higher education, careers, incomes and living standards. In other words, the standards movement is making growing income inequality worse. Instead of being a solution to the problem, the standards movement is contributing to it.

Well conceived from the beginning, the standards movement could have been designed to play a broadly constructive role. But instead of setting standards, then designing programs for the most vulnerable populations to achieve them, and making the financial investments necessary to enable at-risk students to achieve and attain, we have *reduced* the proportion of our national resources committed to K-12 education.

Those most dependent on social investment are also most affected by the cutbacks. And so K-12 education takes on the role that higher education has always played of sorting and classifying human beings largely according to the circumstances of their birth.

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A Preliminary Report:
FY2000 State Appropriations for Higher Education

Preliminary reports on FY2000 state appropriations for higher education show relatively strong gains in FY2000 over FY1999. Unlike most of the last two decades, governors and legislators have assigned higher budget priorities to both K-12 and higher education funding than they have to corrections and Medicaid funding.

Perhaps state government leaders are now listening to the public opinion polls. Or perhaps they are listening to business leaders complaining of skilled labor shortages. Or perhaps the strong economy and state general fund surpluses permit them to address needs they have always felt were there, but competing priorities prevented them from addressing in the past. Whatever the reason, in most states governors and legislators have increased higher education funding substantially--beyond inflation--over the last three years.

Here we examine preliminary and incomplete data from two sources: the Fiscal Affairs Program of the National Conference of State Legislators (NCSL), and the Center for Higher Education and Educational Finance at Illinois State University (Grapevine). These data will be finalized late this year. Their value here is that they offer and early insight into state appropriations and the relative priorities of state governments.

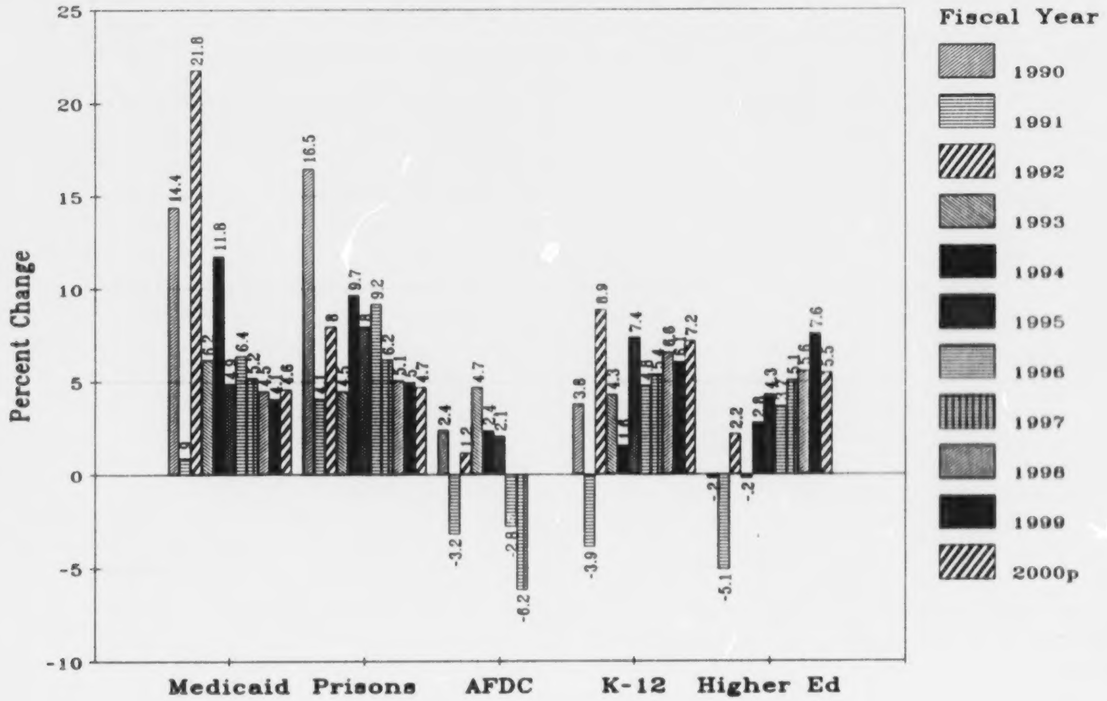
The Data

The NCSL data were compiled based on state reports from the National Association of Legislative Fiscal Officers. By early August reports had been received from 45 states, with the remaining states not having completed state fiscal legislation by the survey date.

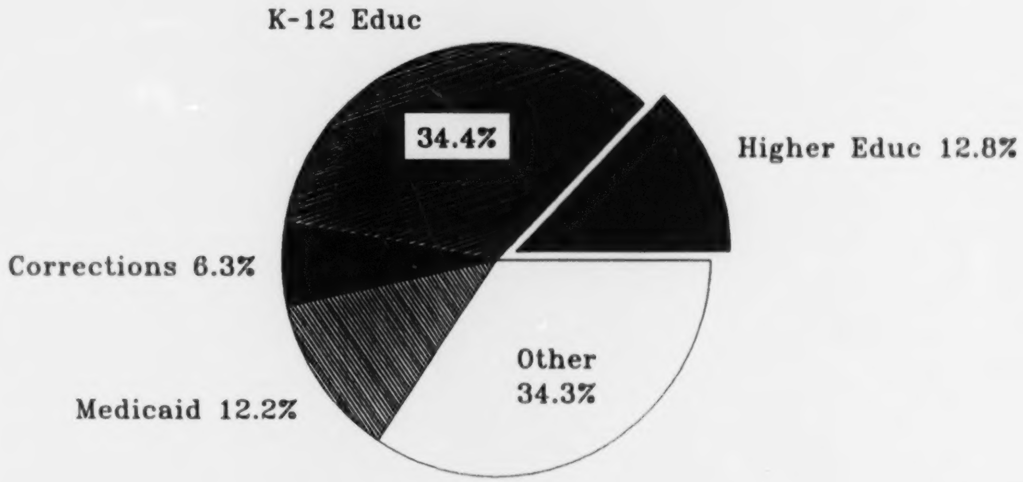
Expenditure and appropriations data are collected on four primary state responsibilities: Medicaid, prisons, K-12 education and higher education. Since the replacement of AFDC with TANF in 1997, there is no more data to collect on state appropriations for welfare. In addition, NCSL collects important data on state tax actions--increases or decreases--that also reflect budgetary priorities.

The Grapevine data on state tax fund

Annual Changes in Major Expenditure Categories from State General Funds FY1990 to FY2000p



State General Fund Appropriations
FY2000p



appropriations for higher education is compiled by Illinois State University. When complete, these data appear in *The Chronicle of Higher Education* and later are published by the State Higher Education Executive Officers (SHEEO). As they are collected, they are posted to the Grapevine website at:
http://coe.ilstu.edu/grapevine

Different definitions produce different results from these two sources. For FY1999 appropriations NCSL reported $47.3 billion from general funds and $6.7 billion from earmarked funds for higher education. Grapevine reported $52.8 billion in appropriations from state funds. The difference of $1.2 billion we ignore here.

FY2000p Appropriations

NCSL reports FY2000 state appropriations increased by 5.5 percent over FY1999 expenditures, based on survey responses from 45 states. Grapevine reports a 6.0 percent increase in appropriations over appropriations, based on responses from 10 states (as of August 26). The Grapevine report shows state detail. For the ten states reported so far, the range in increases was from 1.9 percent in **Georgia** to 11.6 percent in **Connecticut**. The state reports appearing in the Grapevine tabulations will probably be completed by about late October, with the final report appearing shortly thereafter both in *The Chronicle* and on the Grapevine website.

Among the 45 states included in the August NCSL preliminary report, higher education received 12.8 percent of all state General Fund appropriations. This compares very favorably to higher education's FY 1999 share of 11.7 percent. For most of the 1990's, higher education's share of state general fund appropriations has been:

FY2000p	12.8%
FY1999	11.7%
FY1998	11.7%
FY1997	11.5%
FY1996	11.9%
FY1995	11.7%
FY1994	12.0%
FY1993	12.2%
FY1992	13.0%

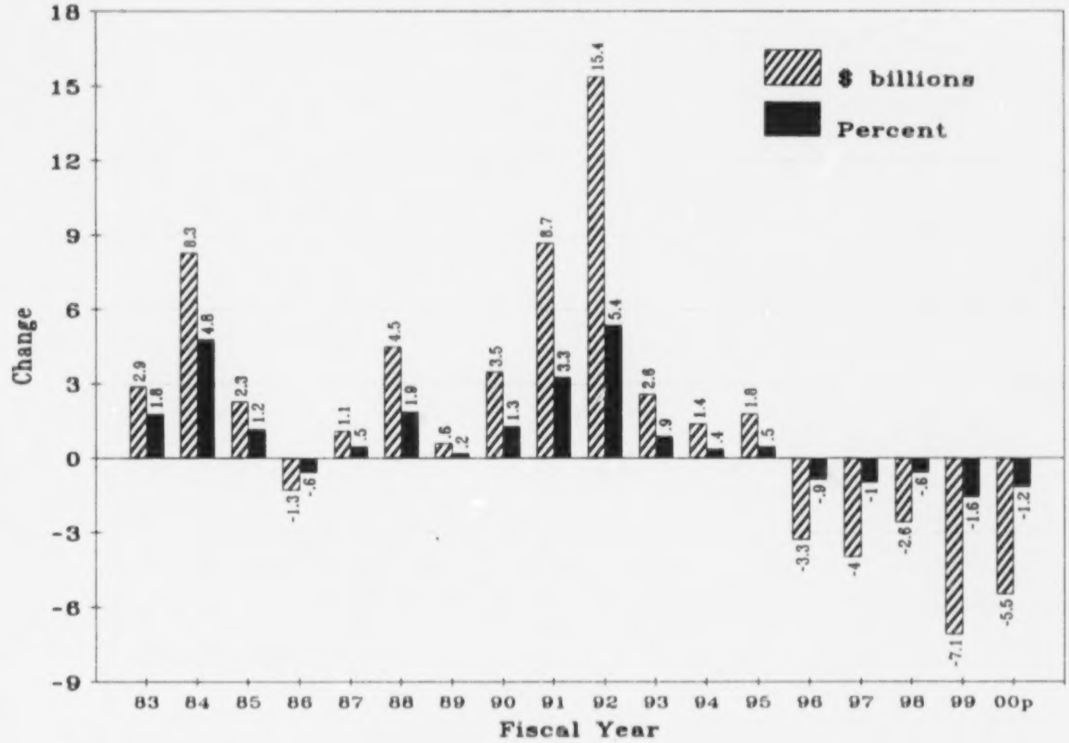
The trend to these data begin to suggest that prior to the early 1990s, higher education received a larger share of state funds than it has during most of this decade. The November 1998 issue of OPPORTUNITY make this point vividly using historical Grapevine data on state tax fund appropriations for higher education per $1000 of personal income. (See OPPORTUNITY #77.) Throughout the 1980s states reduced sharply their funding for higher education.

Competition for State Funds

Over the last two decades higher education has faced competition for state funding from three main sources: Medicaid, prisons and tax cuts. For FY2000 the preliminary data suggest that higher education fared well in funding competition with Medicaid and prisons, but state leaders still decided it was more important to cut taxes than restore previous cuts to higher education funding/investment.

Medicaid. Health care for poor people displaced higher education's funding priority in the 1990s.

Net State Tax Changes
FY1983 to FY2000p



Until FY1993 higher education received a larger share of state general funds than did Medicaid. But Medicaid growth, combined with higher education cutbacks, shifted this: from FY1993 through FY1999 Medicaid received a larger share of state funds than did higher education. In FY2000, for the first time since FY1992, state funds for higher education will exceed Medicaid.

Corrections. A growing share of state general funds have been and continue to be allocated to prisons. In FY1993 4.5 percent were dedicated to corrections, and by FY2000p this had increased to a record 6.3 percent. Growing incarceration rates combined with longer prison sentences make further growth (and competition with higher education) inevitable.

Tax cuts. A more recent competitor for state general funds is tax cuts. This begins in FY1996 during the current prolonged economic expansion phase of the business cycle. State leaders have chosen cutting state taxes over restoring higher education funding. For FY2000p they have continued to make this choice. State taxes were reduced by $5.5 billion, or 1.2 percent from FY1999 levels.

K-12 education. Another competitor for state appropriations is "little kids" or K-12 education. Between FY1992 and FY1994 and FY1995, K-12 funding declined from 36.9 to 29.9 percent of state general fund appropriations. Since FY1995, however, K-12 appropriations have increased to 34.4 percent by FY2000p.

Year-end balances. Since FY 1992, states have been setting revenues aside, spending less than they took in. These rainy day fund balances have grown as a percentage of state general fund expenditures, from about 1 percent in FY1992 to about 9.5 percent in FY1999. For FY2000p this is projected to decline to about 6.5 percent, although state revenue forecasters generally prefer to be cautious in making such projections.

Summary

The preliminary reports on FY2000 state appropriations for higher education are clearly upbeat. This is in sharp contrast with most of the last two decades, and especially the early 1990s. Both K-12 and higher education appear to have gained the attention of governors and legislators in the states. Undoubtedly, the economic expansion throughout most of the 1990s makes this possible, but that same expansion makes it necessary. State prosperity is increasingly tied to the educational attainment of its citizens.

OPPORTUNITY on the Internet: www.postsecondary.org

On August 17, **OPPORTUNITY** went live on the Internet. Adding Internet access to our policy research, reports and data bases expands our educational mission and enables users to access information not otherwise available.

Since its inception in 1992, **OPPORTUNITY** has been dedicated to providing policy-relevant information on opportunity for postsecondary education and training. Our mission is to inform. Our style is analytical, quantitative and aggressive. We seek out problems in the delivery of educational opportunity, and we try to shed as much light on these problems as information and research permit. Currently about 1400 people subscribe to OPPORTUNITY.

Each issue of OPPORTUNITY is organized around three themes:

- Demographic analysis of some significant enrollment issue in postsecondary education and/or training,
- Policy analysis of some government or institutional decisions that foster or impede access to educational opportunities, and
- Analysis of some social or economic condition in which education occurs.

Not every issue follows this format precisely, but the analyses reported in **OPPORTUNITY** each month tend to follow this format.

This will always be a content-driven website. Policy research revolves around problems and issues. Just as the research letter has focused on problems and issues, so too will this website.

Nearly all of the charts, spreadsheets and text found on the website have been filed in Adobe Acrobat (.pdf) format. To download, read and print these files one will need free Adobe Reader software installed on their computer. We have added *Get Adobe* buttons on many pages listing the .pdf files. Simply clicking on these buttons will take one to the Adobe website where in very short order one can download and install Adobe Reader software.

Hot Button Issues

The six hot bottom icons on the front page of the postsecondary.org website are devoted to current major issues of higher educational opportunity. The first button provides a summary of the most recent issue of OPPORTUNITY.

Currently four of these hot buttons lead to research and analyses that we have reported on these issues in past issues of OPPORTUNITY. The four current topics are: our proposal for the design of a Pell Academic Challenge Grant, our editorial of the shifting focus of financial aid from need to greed, our analyses of the gender gap in higher education, and why we oppose merit-based scholarships. These buttons will change with new issues in the public eye or others that we may wish to draw attention to.

What's New

As we add content to the website, we will list them in the sequence we add them. For those who browse the site occasionally, this will provide a quick update.

Archives

This is the core of our past policy analyses, as reported in back issues of **OPPORTUNITY**. Eventually, all back issues of opportunity, including both text and charts, will be posted to the site under the Archives icon. Currently all 1998 and 1999 issues have been archived.

The most recent 12 issues of OPPORTUNITY are only available to current subscribers. To access these files for username the subscriber must enter the word *newsletter* and for the password enter the case-sensitive password found at the bottom of page 2 of the current month's issue of **OPPORTUNITY**. This password changes each month and thus is available only to those who receive OPPORTUNITY monthly as subscribers.

Search

One can search the website for words or phrases, with a list of hits returned after the search. The search function hits article titles--it does not search document contents.

Contact Us

You can see the faces that produce **OPPORTUNITY** each month, or the website designer (currently on leave to get her graduate degree at the University of Michigan). You can also e-mail to **OPPORTUNITY** staff.

State Reports

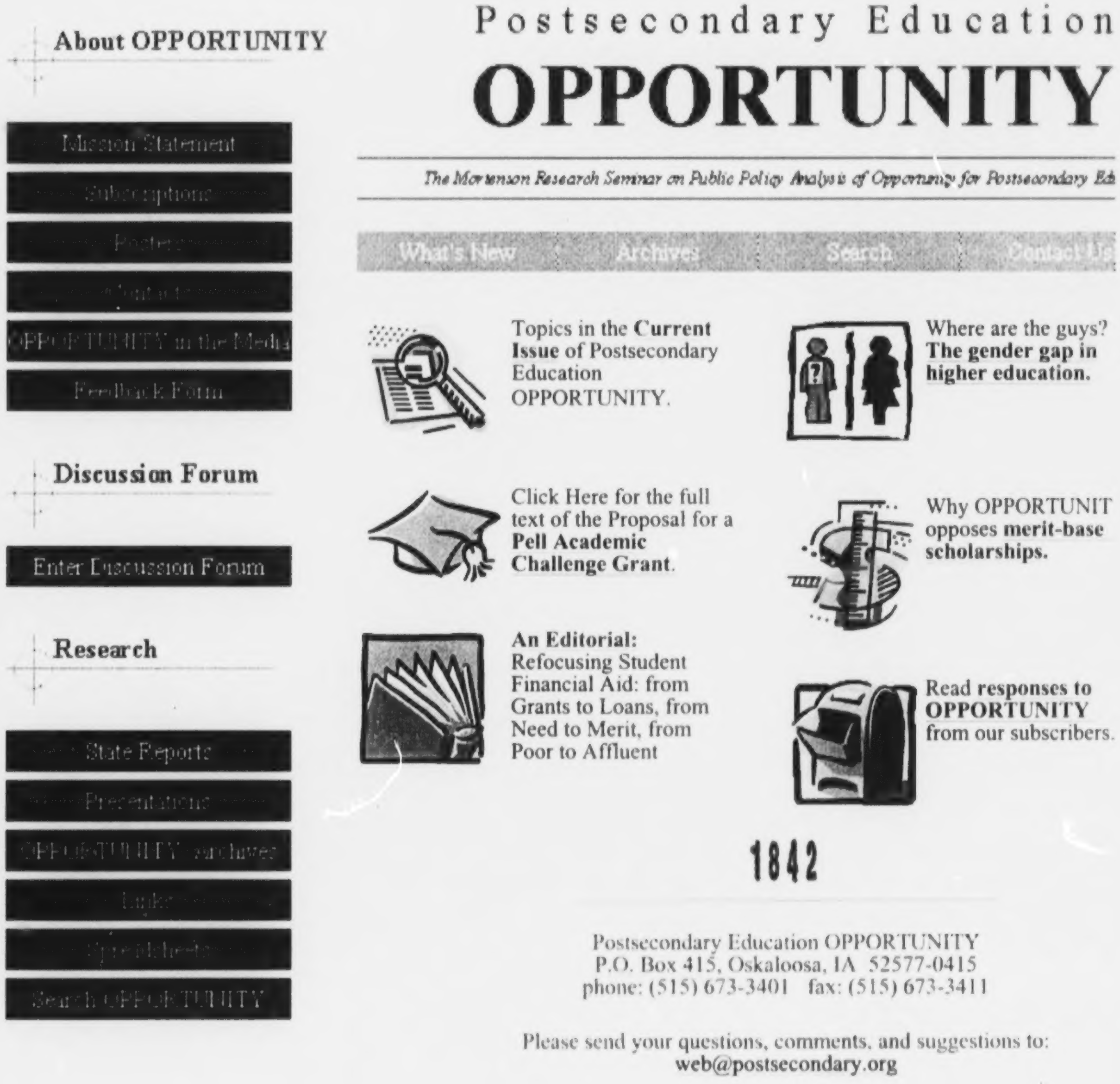
Over the last decade we have made many state reports to state higher education meetings or on a consulting basis on the status of higher educational opportunity in those states. These presentations usually involve identifying problems for which public policy responses may be appropriate. The presentation handouts typically involve an outline summary of the major points made during the presentation, as well as copies of the charts presented as overheads during the presentation. Posting these to the website reduces copying costs and distribution delays following these presentations, and makes these presentations available to a wider audience than just those who were present.

Presentations

In addition to state reports, OPPORTUNITY often makes invited presentations to audiences on other issues of educational opportunity. Recent examples include unmet financial needs of students, private returns to higher education investments, and access to technology and educational opportunity. As these presentations occur, they will be posted to the website and noted under *What's New*.

Links

We have found many Internet websites that provide us with studies, data, insight, and other useful information for our policy studies of educational opportunity. This page shows those website links.



The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Ed

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Links are also used elsewhere on the site to show how OPPORTUNITY is reported in the media, to guide users to documents not found on our website and for other informational purposes.

Spreadsheets

Most of what appears in the pages of OPPORTUNITY is worked up through spreadsheet analysis. Since many of these spreadsheets are quite unique, we post them on the website under the *Spreadsheets* icon.

Subscriptions

OPPORTUNITY is supported exclusively by those who subscribe to the monthly research letter. We offer subscription initiation and renewal services to our subscribers through a secure server accessed from the front page of the website. Subscribers are offered alternative payment options.

Additionally, OPPORTUNITY posters can be ordered through the website.

OPPORTUNITY in the Media

OPPORTUNITY is often cited in the media by higher education reporters doing local or state stories. Reporters often use OPPORTUNITY for a national perspective on a local issue, e.g. the growing gender imbalance in higher education enrollments and graduates. We provide links to some of these stories. Moreover, we believe that the media play a vital role in forming public opinion on issues and public policies regarding educational opportunity. We encourage substantive analysis reporting by the media.

What Our Subscribers Tell Us

This is our bragging page. Since 1992 our subscribers have been generous with their support and praise of OPPORTUNITY. We have asked them for critical comments, to help us do a better job of policy analysis and reporting. In part this is what they have told us. (There have been only three or four really negative comments about OPPORTUNITY over the last 86 issues, but we learned from these comments too.)

This website will grow and evolve to meet the needs of our subscribers, who provide all of the financial support for this website. It will be dynamic and content-driven. We promise to address important policy issues in the delivery of educational opportunity to *all* Americans.

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 88 www.postsecondary.org **October 1999**

Unmet (and Overmet) Financial Need of Undergraduate Students

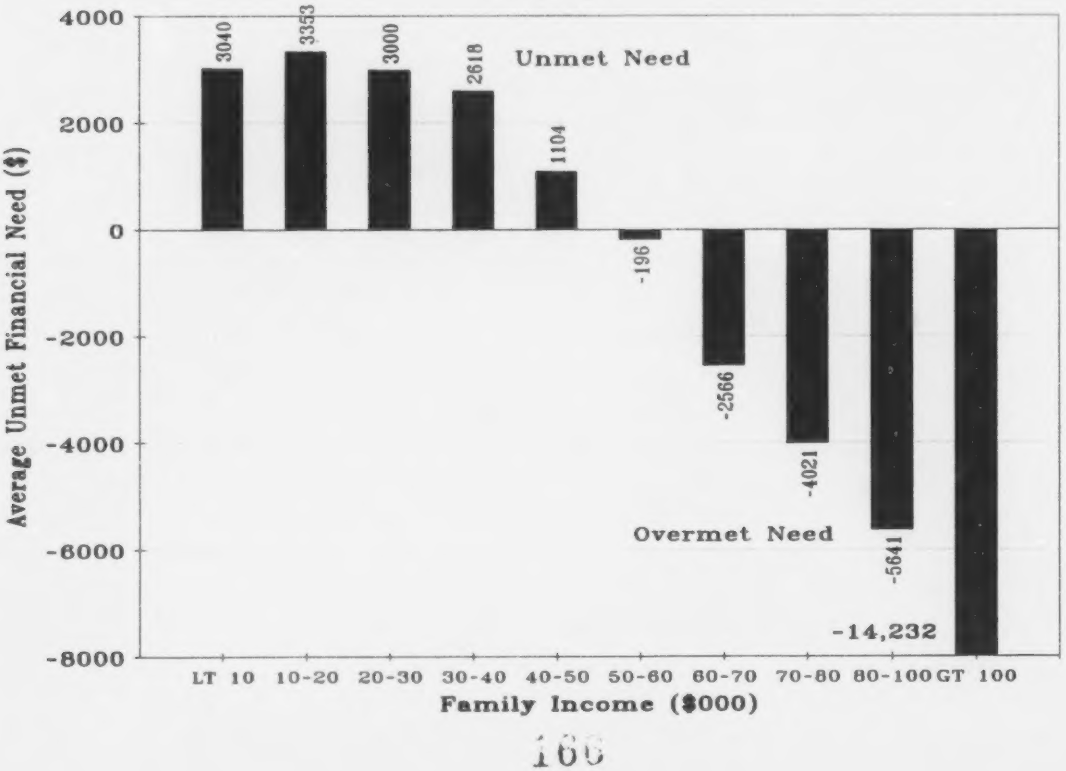
The financial need of a college student is determined by subtracting the expected family contribution from that student's costs of attending college:

Cost of attendance		(tuition and fees, books and supplies, room and board, transportation, personal and medical expenses, etc.)
less	Expected family contribution	(from income and assets, by Federal Methodology)
equals	Financial need	(met with grants, scholarships, loans, earnings)

Under this nearly universally practiced method of disbursing student financial aid funds, the student's family has the first level of responsibility for financing the college education of their child. To the extent the contribution from income and assets of the family equals or exceeds costs of attendance, the student is not financially needy. However, if family resources fall short of covering college attendance costs, the student has demonstrated financial need for aid to attend college. That need is then met with a complex combination of grants, scholarships, educational loans and earnings from employment.

The above model is the ideal. It has been practiced for nearly 50 years. It is the basis for awarding nearly all federal, state and institutional financial aid. The model is soundly based in

Unmet Financial Need for Dependent Undergraduate Students Who Receive Financial Aid 1995-96



nearly 50 years worth of research on the effects of price and net price on college enrollment decisions of students.

Unfortunately, reality is far short of this ideal for many students attending or wanting to attend college today. Many undergraduate students face staggering amounts of unmet financial needs. After their expected family contribution, grants and scholarships, loans and earnings from on-campus employment are deducted from the costs of attendance, they still face $3000 or more of costs of attendance that are not covered by family or financial aid resources.

This analysis of the unmet financial needs of undergraduate college students attempts to tell that story through analysis of financial aid data on packages of aid received by students at different levels of family income. We started out looking at state data, first from New Mexico, then from Colorado--both states with statewide unit record financial aid systems. The results from these two states were startlingly similar. Then we looked at national data from the National Postsecondary Student Aid Study for 1996 (NPSAS96). Again we saw very similar patterns in the distribution of unmet (and overmet) financial need across family income levels for both dependent and independent undergraduate students. So we share the results of our analysis here.

From any perspective, the results of this analysis are staggering and frightening, and frankly shameful. Students from low and lower-middle income families face huge amounts of unmet financial need. Aided students from upper-middle and upper income families are receiving more financial aid than they need (much of it in the form of unsubsidized federal educational loans). Since Congress passed the Middle Income Student Assistance Act in 1978, nearly all public policy financial aid initiatives have been geared toward helping students from middle and upper income families--not those from low income families for whom government financial aid programs were created through passage of the Higher Education Act in 1965.

The loss of public policy focus on meeting the now federally defined financial needs of college students has resulted in a profound redistribution of educational opportunity over the last two decades. In particular, students from the bottom quartile of the family income distribution--below about $25,000 per year in family income--have seen their estimated bachelor's degree attainment rate *decline* from 6.9 percent in 1990 to 4.8 percent by 1997. The estimated bachelor's degree attainment rate declined only for this bottom family income quartile. The rates have increased for students from all higher family income quartiles.

College attendance has always been especially difficult for those from lowest family income backgrounds, for many important reasons. But available evidence suggests these students are acutely attuned to the increasing educational attainment requirements of the labor force. The rate at which students from low income families enroll in higher education following high school graduation has increased sharply since the mid 1980s.

But public policy has simply failed to help them achieve their educational goals, by a deliberate set of public policy choices that begin with the Middle Income Student Assistance Act of 1978. These policy choices include the substitution of loans for grants, the relaxation of expected family contribution, the choice to reduce the Pell Grant maximum award (twice), the creation of state college savings and pre-paid tuition programs, the

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Mission Statement
This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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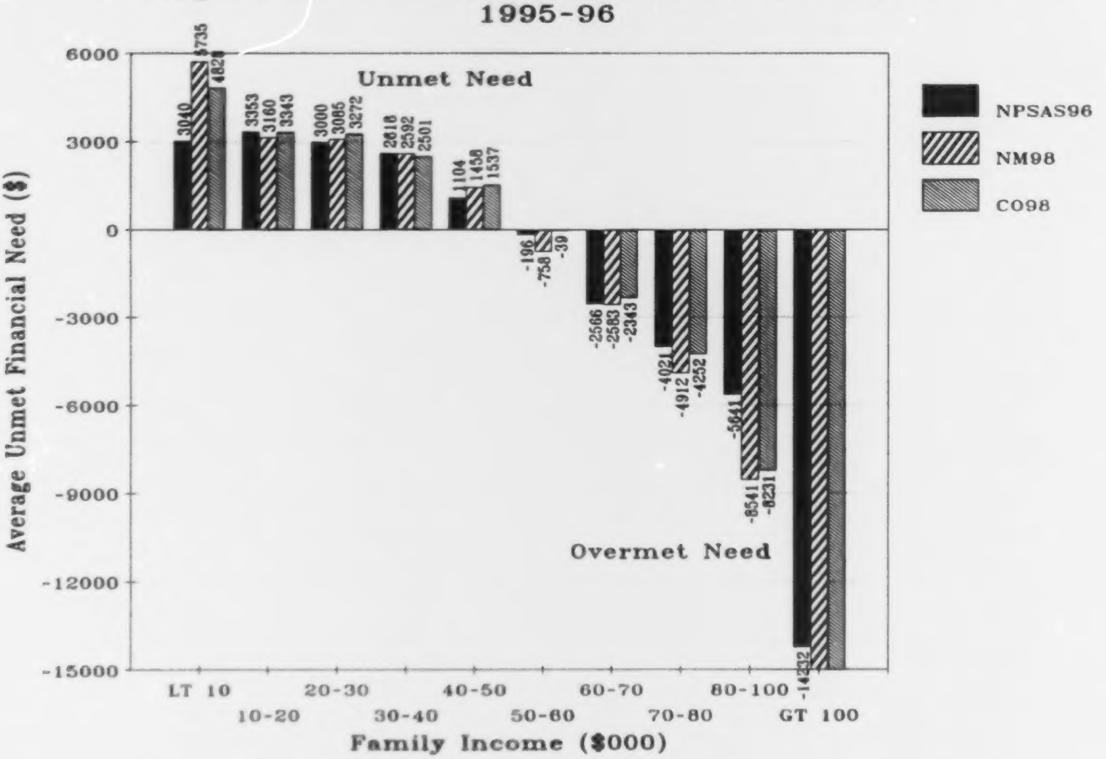
Unmet Financial Need for Dependent Undergraduate Students Who Receive Financial Aid 1995-96



creation of state merit scholarship programs, the Hope and Lifetime Learning Tax Credits and other measures all designed to serve students from middle and upper income families.

Here, then, is our analysis of the available federal and state data on the unmet and overmet financial needs of undergraduate college students in the United States.

The Data

The sources for the data used in this analysis are three large unit record data bases, one national and two statewide. It is only through these comprehensive and representative data sets that one can properly examine the adequacy of financial aid resources toward meeting the financial needs of students across different family income levels.

These analyses are limited to full-time, full-year undergraduate dependent and independent students. In the case of the federal NPSAS file, the analysis is limited to same-institution students also. These limitations greatly simplify what is inevitably a complex and difficult analysis under the clearest of circumstances. This simplification takes nothing away from the analysis--it only serves to clarify the underlying findings buried in the data.

The spreadsheets containing all of the tabulated data used in this analysis are available for free downloading from our website at:

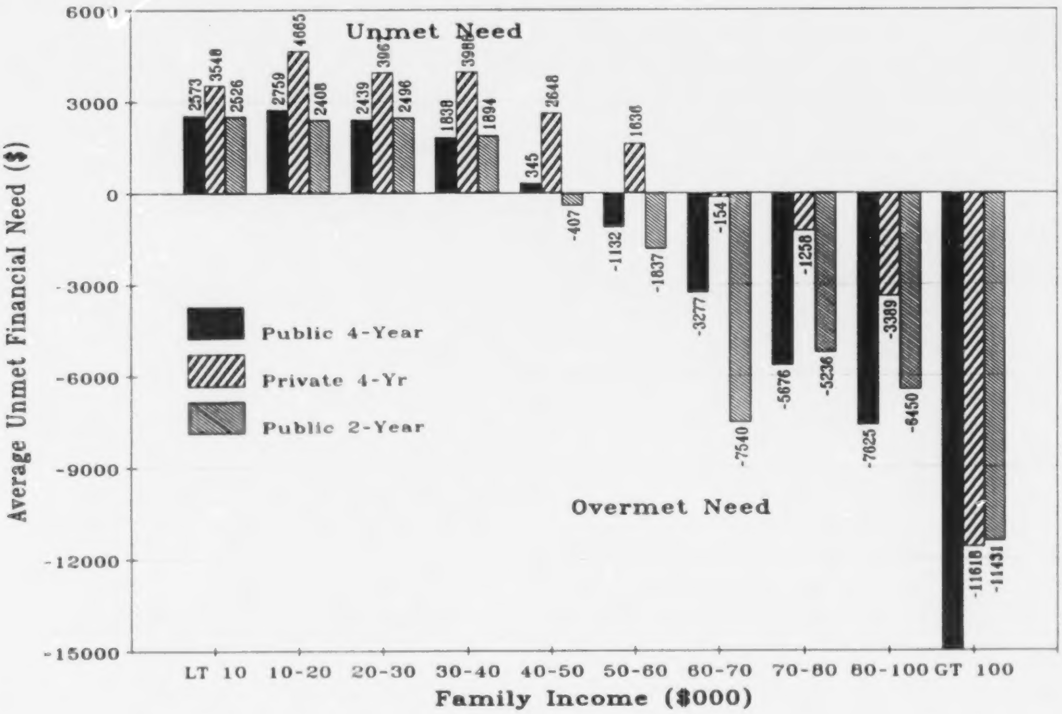
http://www.postsecondary.org

under the Spreadsheets button. These spreadsheets are stored in .pdf files that require Adobe Acrobat Reader to download, view and print. This software is available free through a link on the Postsecondary website.

National Postsecondary Student Aid Survey, 1996. This federal survey was initiated with the 1987 NPSAS survey, and has been updated at three year intervals since then. It consists of very extensive data gathered from colleges and other sources on the financial aid packages received by college students during the 1995-96 academic year.

The retrieval and tabulation of the NPSAS96 data was performed by Dr. Lutz Berkner of MPR Associates in San Francisco. Dr. Berkner not only has extensive experience with and responsibility for this data set, but he is one of few higher education analysts approved by the National Center for Education Statistics to analyze the secure file where negative values are

Unmet Financial Need for Dependent Undergraduate Students by Institutional Type/Control 1995-96



calculated and available. The public use NPSAS96 data file converts these negative values to zero (as does the Federal Methodology for assessing family ability to pay), to the extreme disservice of policy makers, analysts and the public interest. Thus, the analysis presented here is very fortunate to be able to use Dr. Berkner's unique contribution to the study of unmet (and overmet) financial need of college students.

New Mexico, 1998. The New Mexico Commission on Higher Education (CHE) recently completed data collection on the financial aid packages of aided students in New Mexico higher education institutions for the 1997-98 academic year. These data were gathered under the general umbrella of the CHE's responsibilities to administer a large number of state funded financial aid programs for students. Many of these programs were small, they served a variety of state interests, they were expensive to administer and ultimately they were confusing to students. The assembly of financial aid packages on all aided students was a vehicle for examining who was served by all of these programs, and whose needs were being missed. Lillian Montoya-Rael, Deputy Director for the CHE, was responsible for the collection of these data and worked with financial aid directors to complete the task.

Colorado, 1998. The Colorado Commission on Higher Education has developed and maintains a statewide unit record system that includes data on financial aid awards. In the study of a proposed new state financial aid program targeted on low family income students not planning to attend college following high school, unit record files were analyzed to determine the distribution of unmet financial need across family income levels. Sheila Seery and John Ceru of the Commission staff retrieved and tabulated the financial aid data examined in this study.

Other states with unit record systems for financial aid could also prepare analyses similar to those reported here. Washington and Vermont both have these systems, and other states that do not have them in place could do what New Mexico did and gather the data for similar analyses.

In at least one state, however, the compilation and reporting of data on unmet financial need of college students was so politically embarrassing to state officials that the analyst who prepared the study was fired from his job.

Despite the often politically difficult issues raised by such studies, we offer our analysis in the hope that federal, state and institutional policy makers might come to more clearly see who needs financial help to attend college (and who does not) as well as just how much financial help they need.

We offer our data as well to financial aid officers and others concerned about college affordability as benchmarks for reference, and for guidance about how to analyze and present institutional data to institutional administrators, trustees and funding sources.

Dependent Undergraduate Students

The distribution across family income levels of unmet and overmet financial need for full-time, full-year, same-institution dependent undergraduate students for the 1995-96 academic year from the NPSAS96 data file is shown in the chart on page 1 of this issue of OPPORTUNITY.

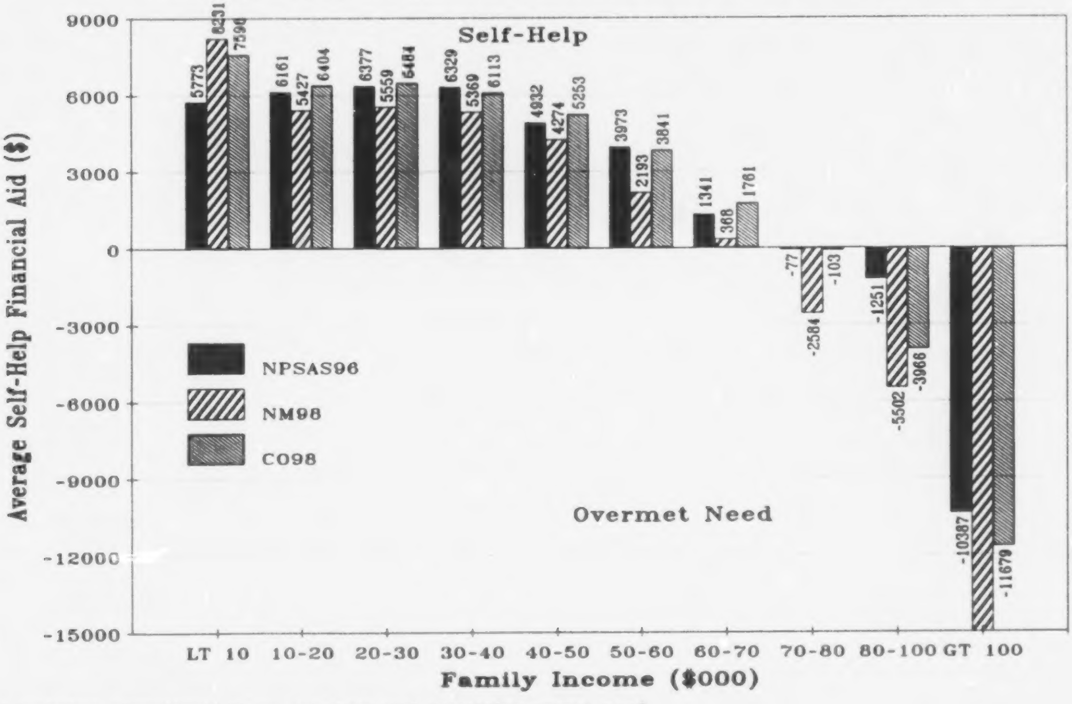
This chart shows that on average:

- Up to about $40,000 in family income, these students receive financial aid packages from institutions plus family contributions that fall about $3000 short of meeting costs of college attendance.
- Between $40,000 and $50,000 of family income, unmet financial need drops to about $1100 per student.
- Between $50,000 and $60,000 of family income, students receive about as much aid as they need.
- Above $60,000 per year, the financial needs of students are substantially overmet, rising to an average of $14,232 beyond need for aided students from families with incomes of more than $100,000 per year.

The two recent state studies of unmet financial need--New Mexico and Colorado for the 1997-98 school year --permit useful comparisons with the national data for 1995-96. These results are shown in the chart on page 3. The results from the two state studies are strikingly similar to the national data. In some cases--between $10,000 and $80,000 of family income--they are nearly identical. Only below $10,000 of family income were students in New Mexico and Colorado facing notably higher unmet financial need than were students nationally two years earlier.

The chart on page 4 shows average unmet financial need from the NPSAS96 data file by institutional type and control. Here there is important variation in the data across family income levels. At most levels

Self-Help Financial Aid* for Dependent Undergraduate Students Who Receive Financial Aid for NPSAS96, New Mexico98 and Colorado98



* Includes: educational loans, earnings and remaining unmet need

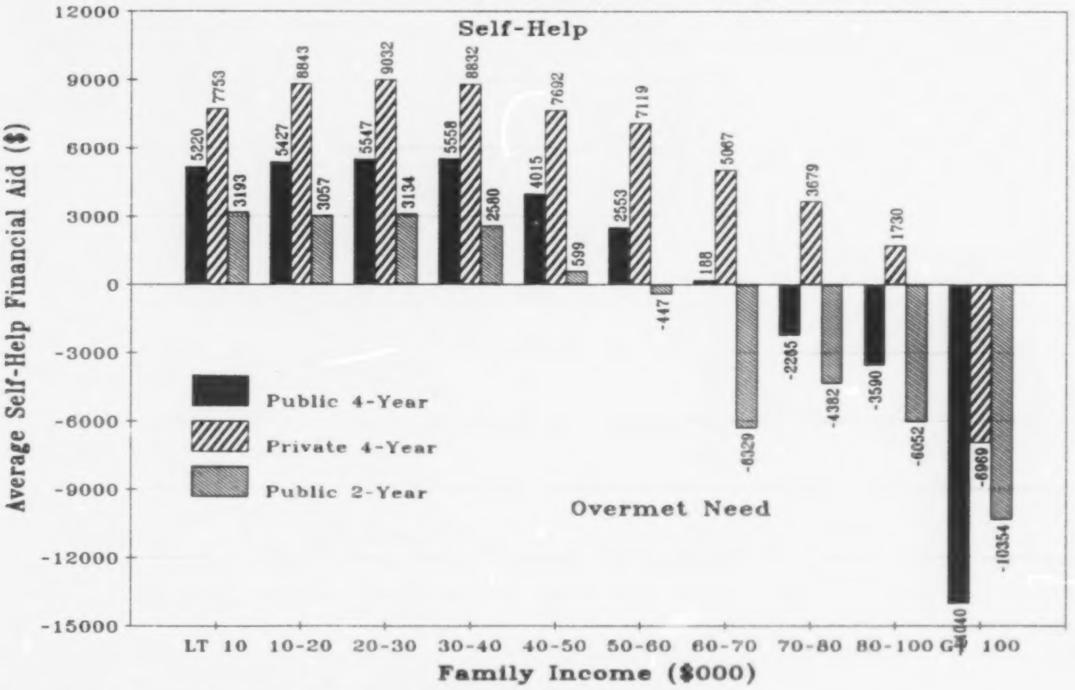
of family income, dependent undergraduate students attending private 4-year colleges and universities faced considerably higher unmet financial need than did students at similar income levels attending public 2-year and 4-year institutions.

- Among aided students, this difference was about $1000 below $10,000 in family income.
- The difference increased to more than $2000 at family incomes above $30,000 per year.
- Above about $60,000 in family income, where on average all aided students were receiving aid far beyond their need, this difference increased further to an average of $3000 to $4000 per aided student.

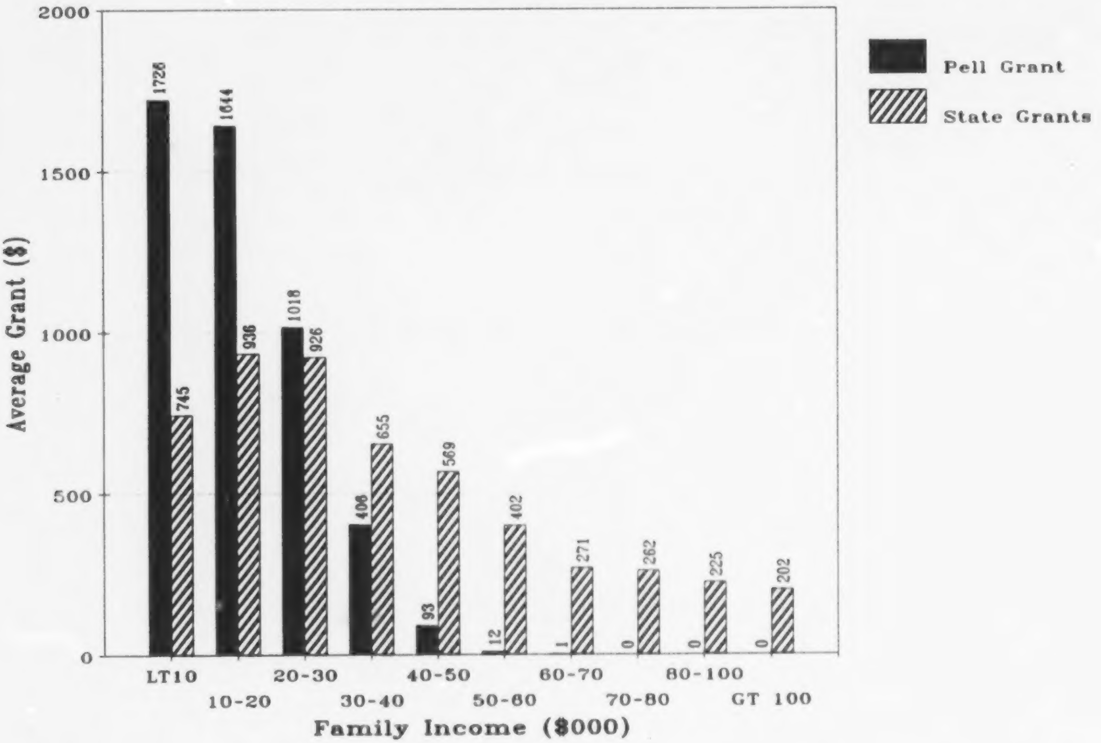
How can students from families earning less than $40,000 per year possibly attend college (and pay their bills) facing unmet needs averaging more than $3000? The answer is found in the NPSAS96 data, which collects off-campus earnings data on school year employment. Most of the unmet financial needs of dependent undergraduate students are made up through term-time off-campus employment earnings:

- For dependent students from families with incomes of less than $10,000 per year, unmet financial need averaged $3043, while off-campus school year earnings averaged $2433--a shortfall of $610.
- Between $10,000 and $20,000 per year family income, unmet need averaged $3353 while off-campus earnings averaged $2842--a shortfall of $511.
- Between $20,000 and $30,000 of family income, unmet need averaged $3000 and off-campus earnings averaged $3045--leaving $45 in pocket money.
- Between $30,000 and $40,000, unmet need averaged $2618, and earnings averaged $2964--leaving $346 for pizza.
- Between $40,000 and $50,000, unmet need averaged $1104 while off-campus earnings averaged $3128--leaving $2024 for pizza, beer and a ski trip.
- Between $50,000 and $60,000, unmet need averaged -$196, while off-campus earnings averaged $2507--leaving $2703 for pizza, beer, a ski trip plus spring break in Florida.
- Between $60,000 and $70,000, unmet need averaged -$2566 while off-campus earnings averaged $3640--leaving $6206 for pizza, beer, the ski trip, spring break in Florida, and an apartment upgrade.
- Between $70,000 and $80,000, unmet need averaged -$4021 with off-campus earnings averaging $2365--leaving $6386 for the above luxury package.

Self-Help Financial Aid* for Dependent Undergraduate Students Who Receive Financial Aid by Institutional Type and Control, 1995-96



* Includes: educational loans, earnings and remaining unmet need



- Between $80,000 and $100,000, unmet need averaged -$5641 and off-campus earnings averaged $2202--leaving $7843 for premium pizza, better liquor, airfare for the ski trip, and spring break in Mexico.
- Over $100,000 of family income, unmet need averaged -$14,232 and off-campus earnings averaged $2121 for aided students. This left $16,353 for a bachelor's pad, regular restaurant food, good liquor, spring break in Paris, and enough left over for car payments on an almost new bright red two-seater roadster.

Obviously, need is relative, and those who have more appear to need more. Its almost what defines being an American.

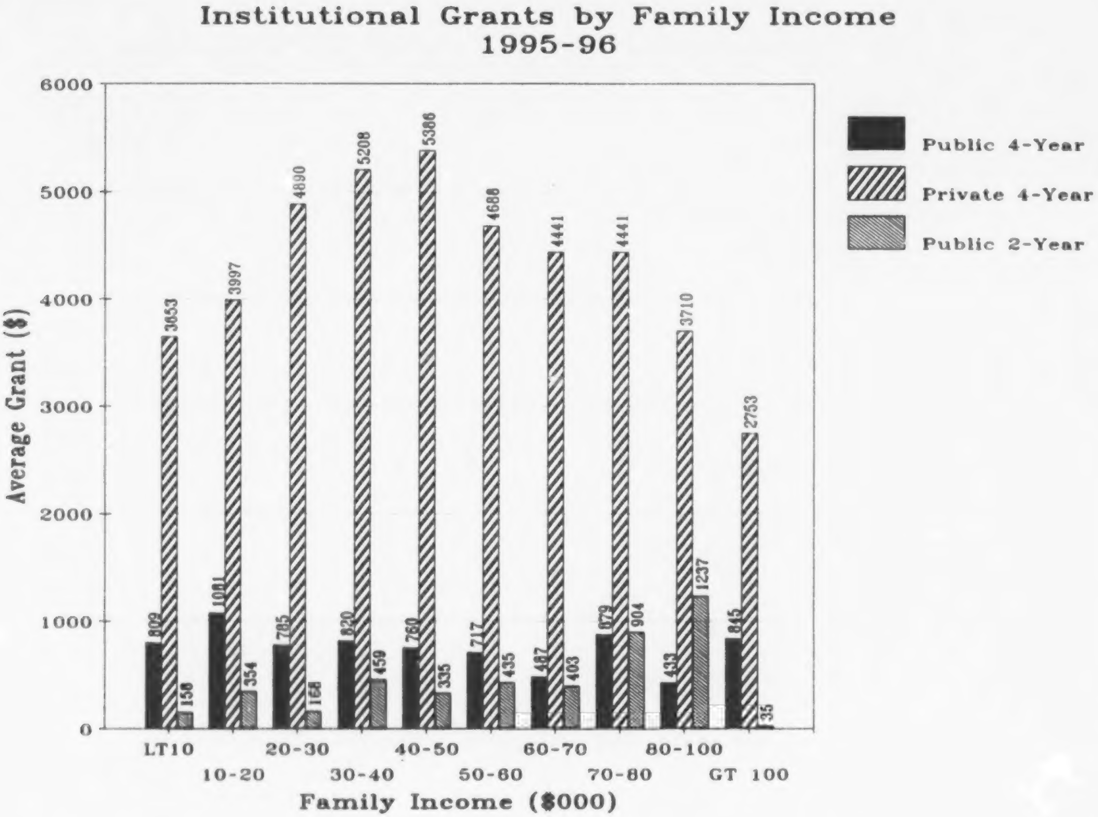
The purest form of financial aid to college students is gift aid. This can take several forms, but notably consists of grants, scholarships and tuition and fee waivers. These are awarded to students under widely differing objectives, depending on the objectives of the funding source as shown in the chart on this and the next page.

The allocation of federal and state grant assistance to dependent undergraduates across family income levels is shown in the above chart. The average Pell Grant is largest for those from lowest income families--over $1600 for those from families with incomes below $20,000 per year. The size of the average Pell Grant declines rapidly with higher family income levels, to $1108 between $20,000 and $30,000, to $406 between $30,000 and $40,000, and so on to zero by $70,000 to $80,000.

State grants are also tilted toward lower income students, but not so sharply. Average state grants are largest between $10,000 and $30,000 of family income, then drop off with family income. But even for aided dependent undergraduates from families with incomes of more than $100,000 per year, the average state grant was $202 in 1995-96.

Quite different grant allocations are made by institutions with the funds they are able to allocate. In public universities, for example, average institutional grants tend to be largest for students from families with incomes below $30,000 per year, and for students from families with incomes of more than $70,000 per year.

Private 4-year institutions--both colleges and universities, clearly



allocate institutional grant funds by a different set of formals. Average institutional grants increase with income to a peak of $5386 in the $40,000 to $50,000 family income range. Thereafter, average grants decline. However, the average grant to aided student in the $80,000 to $100,000 family income range is larger than is the average grant to a student from a family earning less than $10,000 per year. By any measure, the average grants of private 4-year institutions to aided dependent undergraduates are far larger than federal, state, or public institutional grants.

Public 2-year institutions make relatively few institutional grants. Here, however, among aided students a curious situation emerges: average grants increase with income. These grants are smallest for those from lowest income families, and are largest in the $80,000 to $100,000 family income range.

Independent Undergraduate Students

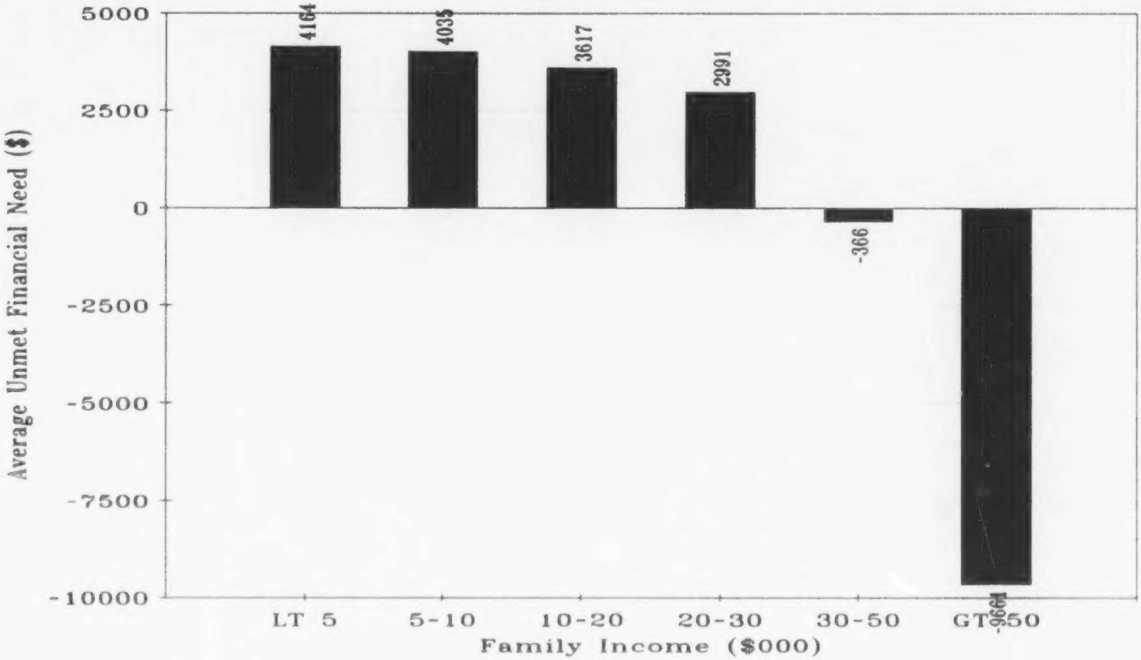
The most important findings regarding the distribution of unmet financial needs of dependent students apply to aided independent undergraduate students as well. Across family income levels, those from lowest family income backgrounds face the highest average unmet financial needs. Those from the highest family income levels receive more financial aid than they have demonstrated need for.

In the 1996 National Postsecondary Student Aid Study, average unmet financial need was $4164 for those with family incomes of less than $5000 per year. Unmet need declined gradually to $2991 for those from family incomes of $20,000 to $30,000.

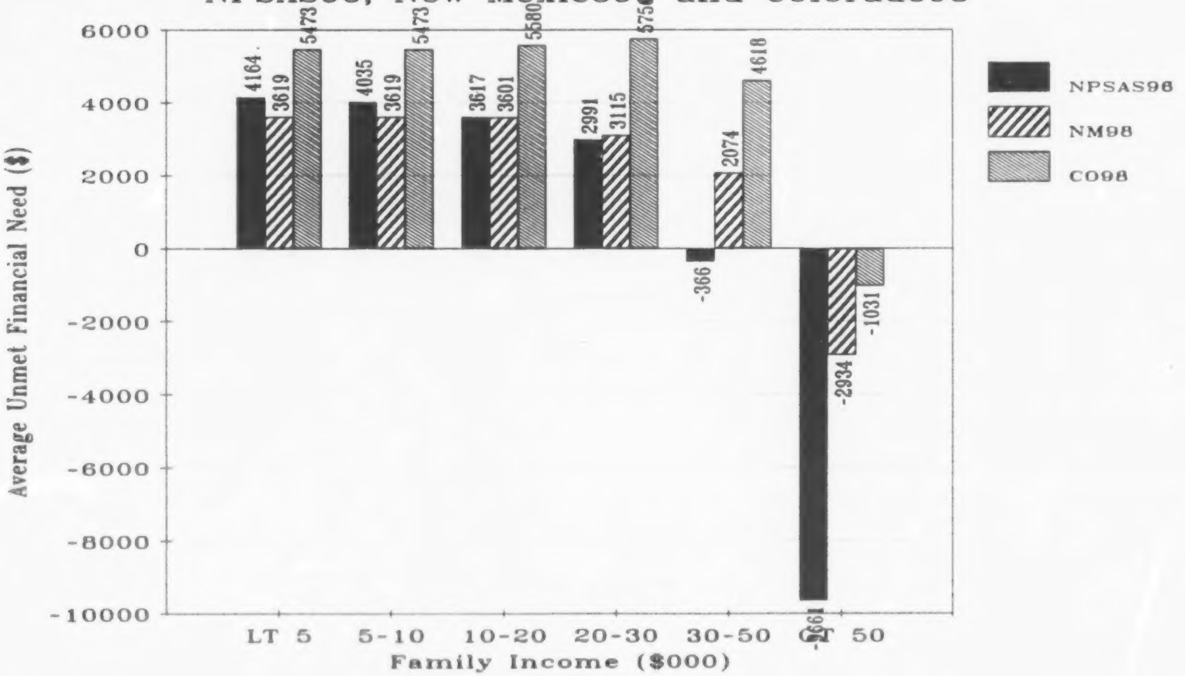
Between $30,000 and $50,000, average unmet need among aided students was -$366. These aided students received more financial aid than they needed. Over $50,000 of family income, average unmet need was -$9661, or aided students received this much more in aid and family contribution than they needed.

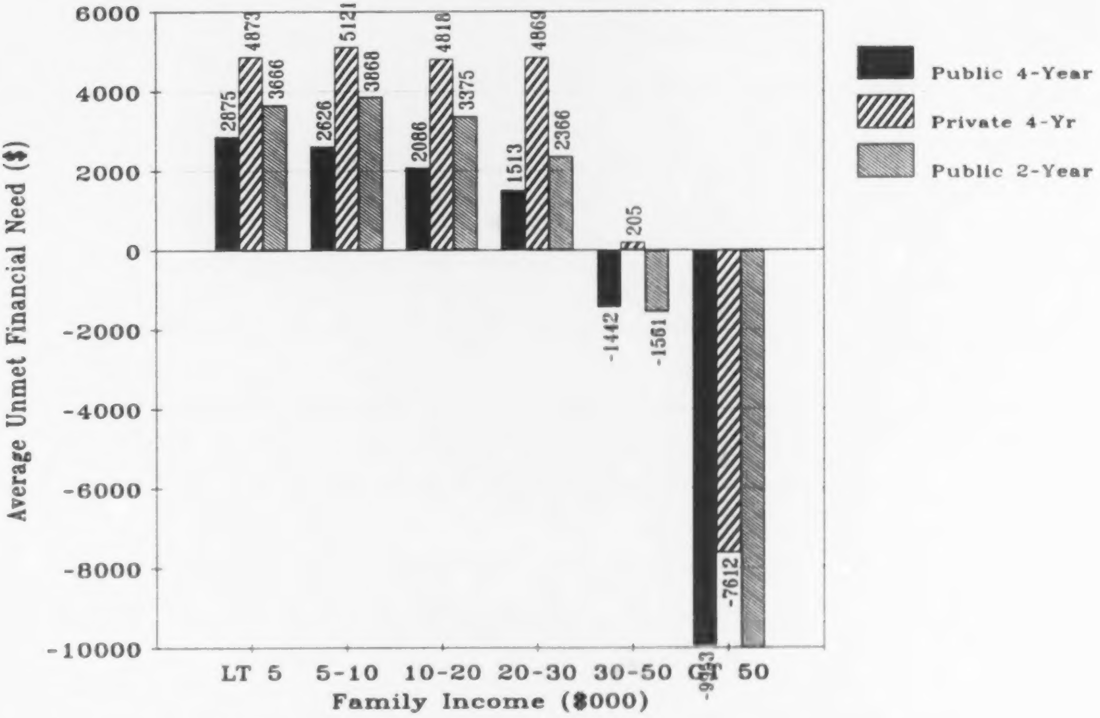
The NPSAS96 results are compared to the findings from the New Mexico98 and Colorado98 studies in the chart on page 9. Here again the general pattern holds, although the aided independent undergraduates in Colorado clearly faced considerably greater unmet financial need than do students either in New Mexico or nationally.

Unmet Financial Need for Independent Undergraduate Students Who Receive Financial Aid
1995-96



Unmet Financial Need for Independent Undergraduate Students Who Receive Financial Aid
NPSAS96, New Mexico98 and Colorado98




Unmet Financial Need for Independent Undergraduate Students by Institutional Type/Control 1995-96

Finally, using data from the NPSAS96 file, we can compare the unmet financial need of aided independent undergraduate students across institutional types/control for 1995-96. Here too the general pattern prevails. Those from lower income families face the largest unmet financial needs, while those from families with incomes greater than $50,000 per year on average receive more aid than they need to finance their college attendance costs.

Unlike dependent students, independent students working off-campus during the school year fall well short of financing their unmet needs with term-time employment. For example, students from families with incomes of less than $5000 per year had unmet need of $4164. Their average school year earnings from off-campus employment was $2297, leaving them still $1867 short. This pattern holds up through family income levels up to $10,000 per year as well. The available data do not offer an explanation as to how this funding shortfall was made up.

Summary and Conclusions

This analysis of data has described the distribution of unmet and overmet financial need of dependent and independent undergraduate students. Three data sets were examined. All three data sets describe the same picture: unmet financial need is greatest among those from lowest income family backgrounds. Need is overmet among aided students from highest income families. This applies to all students, both dependent and independent students, students in public 4-year, private 4-year and public 2-year institutions, and students nationally as well as New Mexico and Colorado.

Clearly there is a gross misallocatio of financial aid resources here. Thos from lowest income families, wit fewest resources to finance colleg attendance costs face the largest unme needs. Those from highest incom families appear to need more than the need (to contrast federal and individua perceptions of need).

The larger problem here has been th shift in focus in financial aid awa from meeting the needs of students t serving other needs, such as politica needs for election and re-election state needs for more and fulle prisons, federal needs to cut taxes, an other needs of--at best--dubious publi value.

We have tried here to refocus attentio on who really needs financial aid The answers shown in these data ar clear, consistent and compelling--an these needs remain to be addressed.

Institutional Graduation Rates by Academic Selectivity and Low Income Representation

Students from different academic and income backgrounds are known to graduate from college at different rates. The stronger the academic background (high school grades, high school class rank, standardized test scores) the greater the probability that a student will graduate from college. Similarly and not coincidentally students from higher family income backgrounds experience higher college graduation rates.

Thus, *a priori* we should expect institutions that concentrate their undergraduate enrollments in high academic and/or high family income students to have higher institutional graduation rates than should be expected of institutions that enroll larger proportions of lower academic aptitude and/or lower family income students.

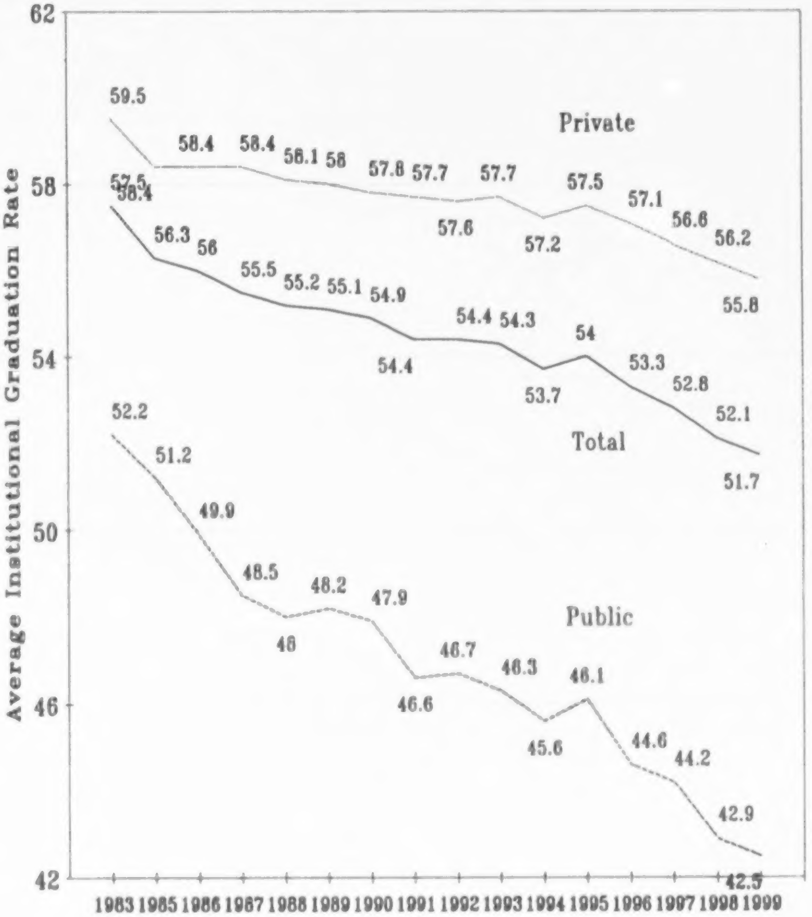
In fact we find the above patterns consistently in the data. The most academically selective institutions tend to have the highest institutional graduation rates (IGR), while the least selective institutions tend to have the lowest IGRs. Similarly, the institutions that serve the fewest students from low income family backgrounds tend to have the highest graduation rates, while the institutions that serve the most low income students tend to have the lowest IGRs.

We report these findings from recent data sets here. They should surprise no one familiar with the data on college graduation rates.

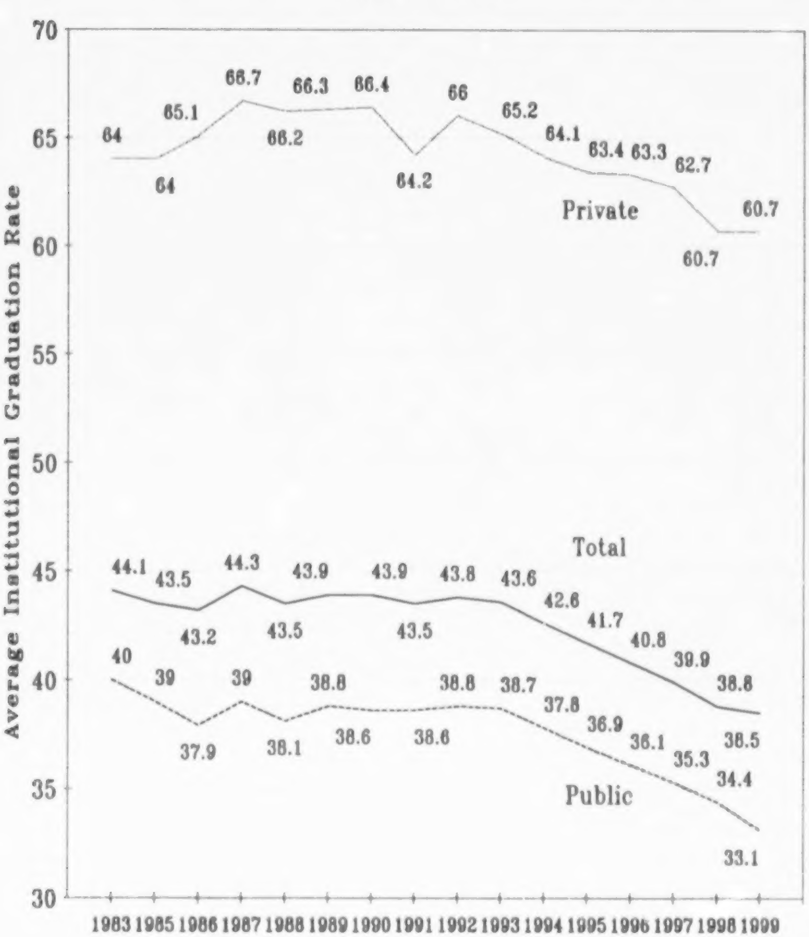
But these data tell another, more important story as well. These same data from the two data sets examined here both say some institutions serving talented, affluent students do not graduate their freshmen very well. Similarly, other institutions that serve less promising and/or affluent students do a better than expected job graduating the academic talent and/or affluent students that they admit.

Our brief analysis here confirms these rock-solid, previously reported findings about the rates at which undergraduates complete their educations at the college where they start. Mostly the findings are current or at least unpublished. But the addition here is more due to the addition of variance about reported mean IGRs. This variance says that some colleges do a better job graduating the freshmen they admit, and other colleges do a worse job, controlling for the academic and financial characteristics of the students served.

5-Year Institutional Graduation Rates
at Public and Private 4-Year Institutions
1983 to 1999



3-Year Institutional Graduation Rates
at Public and Private 2-Year Institutions
1983 to 1999



The Data

Data cited here come from two sources. The first source is ACT, of Iowa City, Iowa, which has been collecting data on 5-year institutional graduation rates (at 4-year institutions) and 3-year institutional graduation rates (at 2-year institutions) since 1983. These data are collected annually on ACT's Institutional Data Questionnaire. The IDQ collects a great deal of data from institutions that are used to assist students in the transition from high school into college.

ACT reports these data each year in a brief set of tables called ACTs' "National Dropout and Graduation Rate Report." This report is prepared by Dr. Wes Habley at ACT, who can be reached by calling (319) 337-1000.

The second source of data reported here is an unpublished study of 6-year institutional graduation rates prepared by Dr. John Lee of Bethesda, Maryland. Dr. Lee combined NCAA graduation rate data for 1994 with Pell Grant recipient and undergraduate enrollment data from the U.S. Department of Education. With these data he tabulated IGRs for NCAA Division I institutions according to the proportion of their undergraduate enrollment that received federal Pell Grants. The results of Lee's analysis look strikingly similar to ACT's tabulation of IGRs by academic selectivity.

Institutional Graduation Rates

The national average 5-year institutional graduation rates at public and private 4-year colleges and universities are shown in the chart on page 11. The national average 3-year institutional graduation rates for public and private 2-year colleges are shown in the chart on page 12.

4-year colleges and universities. In 1999 the national average 5-year IGR at 4-year institutions was 51.7 percent for 1443 institutions. This was the lowest on record and reflects nearly continuous decline in the rate at which freshmen graduated from the college where they started their studies in 5 years or less. In 1983 the IGR had been 58.4 percent.

The average 5-year IGR for 447 public colleges and universities was 42.5 percent. This too was the lowest on record, and reflects a decline from 52.2 percent in 1983.

The average 5-year IGR for 996 private 4-year colleges and universities was 55.8 percent or more than 13 percent above the rate for public institutions. However, the 1999 IGR for private institutions was also the lowest on record, down from 59.5 percent in 1983.

2-year colleges. In 1999 the national average 3-year graduation rate for 920 2-year colleges was 38.5 percent. As with 4-year institutions, this was the lowest on record, and was below the peak of 44.3 percent recorded in 1987.

In 1999 the average 3-year IGR for 771 public 2-year colleges was 33.1 percent, the lowest on record and well below the 1983 rate of 40.0 percent. Most of the decline in IGRs for public 2-year colleges has occurred since 1993.

The average IGR for 149 private 2-year colleges was 60.7 percent, the same as the 1998 rate. This was below the peak of 66.7 percent reached in 1987, and below the 1983 rate of 64.0 percent.

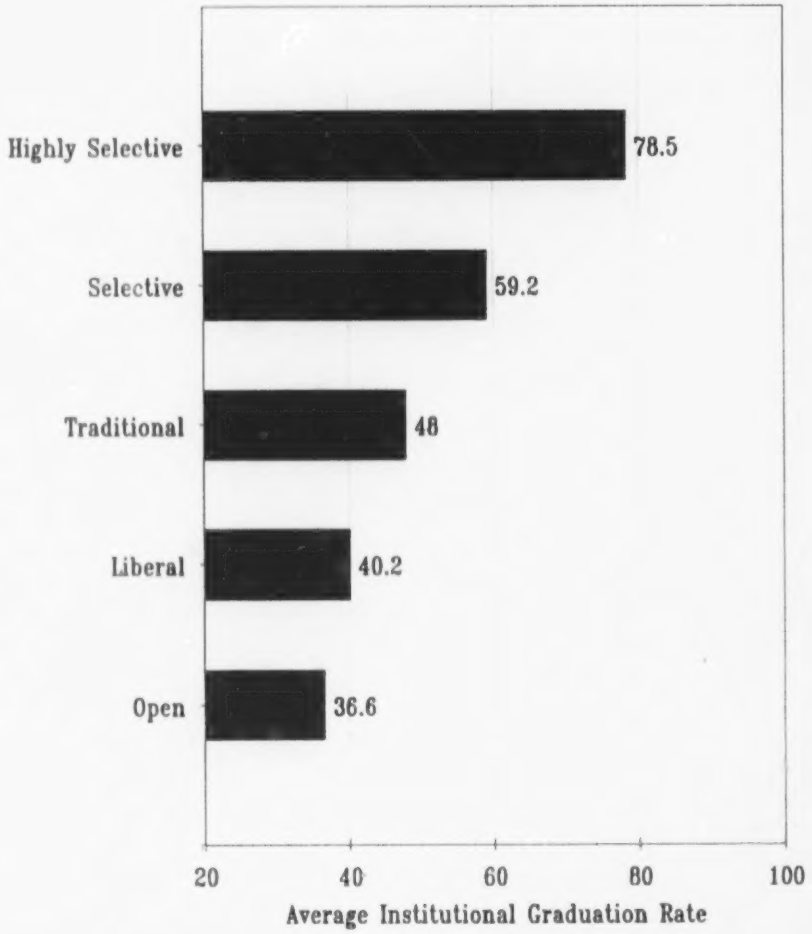
Academic Selectivity

Measurement. The data collected from institutions by ACT on its annual Institutional Data Questionnaire are tabulated so as to permit description of IGRs by the academic selectivity of the reporting institution. ACT asks institutions to classify themselves according to the high school class rank of its freshman class as follows:

- *Highly selective.* Majority of accepted freshmen in top 10% of high school graduating class.
- *Selective.* Majority of accepted freshmen in top 25% of high school graduating class.
- *Traditional.* Majority of accepted freshmen in top 50% of high school graduating class.
- *Liberal.* Some freshmen from lower half of high school graduating class.
- *Open.* All high school graduates accepted, to limit of capacity.

ACT also asks institutions to report on the 5-year graduation rates (at institutions awarding bachelor's degrees) of freshmen cohorts. Now most IGR data is collected on a 6-year follow-up (NCAA, IPEDS, US News, etc.). But since ACT started collecting data in 1983 and has stood by this measure consistently since then, it has become a unique time-series with which to study trends in IGRs.

5-Year Institutional Graduation Rates by Academic Selectivity for Institutions Awarding Bachelor's Degrees
1999



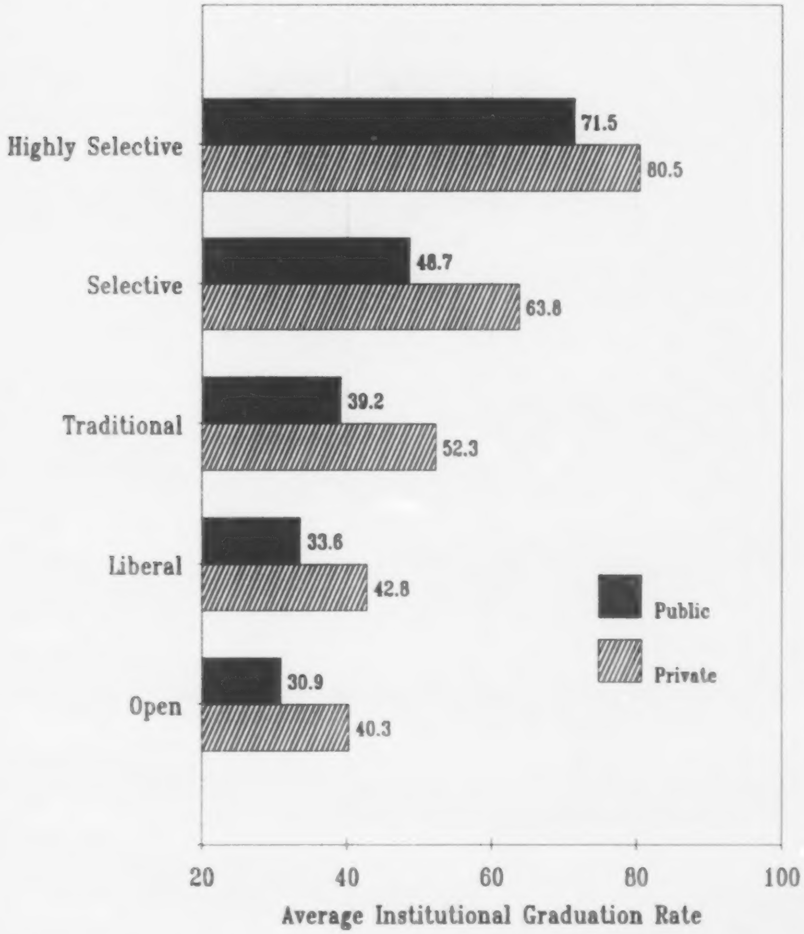
Combined IGRs. As shown in the chart on this page, average 5-year IGRS for institutions grouped by their academic selectivity were as follows:

- For the 121 *highly selective* institutions (28 public, 93 private), the average IGR in 1999 was 78.5 percent.
- For the 395 *selective* institutions (120 public, 275 private), the average IGR was 59.2 percent.
- At the 605 *traditional* admissions institutions (199 public, 406 private), the average IGR was 48.0 percent.
- In the 221 *liberal* admissions institutions (62 public, 159 private), the average was 40.2 percent.
- For the 105 *open* admissions institutions (41 public, 64 private), the average IGR was 36.6 percent.

Clearly, institutional graduation rates are strongly related to the academic selectivity of an institution's admissions practices.

IGRs by institutional control. Overall, IGRS are higher at private colleges and universities than they are in public institutions. This finding holds even

Institutional Graduation Rates by Academic Selectivity and Control for Institutions that Award Bachelor's Degrees 1999



when academic selectivity is controlled for. At each and every level of academic selectivity, the average private IGRs exceed those for public institutions by about 10 percent, as shown in the chart on this page. This is not a trivial difference: at any level of high school class rank, students are considerably more likely to graduate within 5 years from a private institution than they are at a public.

Trends. Over the decade between 1989 and 1999, average IGRs have declined in both public and private colleges that award bachelors degrees. But this has not been true at all levels of academic selectivity.

Within highly selective colleges and universities, average IGRs increased by 1.9 percent, from 76.6 to 78.5 percent. Among the highly selective public institutions the increase in IGRs went from 64.5 to 71.5 percent, or by 7.0 percent. Among highly selective private institutions, IGRs remained constant at 80.5 percent in both years.

At all less selective institutions, average IGRs declined. Among selective admissions institutions, IGRs declined by 3.0 percent (-4.8 percent in publics, -1.7 percent among privates). At traditional admissions institutions, IGRs declined by 6.3 percent (-8.6 percent in publics, -4.5 percent in privates). Among liberal and open admission institutions, both public and private, changes were similar to those for traditional admissions institutions.

Clearly some institutions have improved their IGRs over the last decade, while others have lost ground. Because of the very high correlation between class rank and family income, one could infer from these changes that graduation rates among students from highest income families actually increased over the last decade, while graduation rates for students from lower income families actually decreased, probably sharply, between 1989 and 1999.

Variance. The IGRs reported thus far are averages of institutions grouped by the academic selectivity of their admissions practices. These averages have variance--within each group some institutions have higher than average IGRs, while others have lower than average IGRs. This variance is measured as the standard deviation (SD) of the calculated mean IGRs.

For example, among traditional admission public colleges that award only bachelor's degrees, the average IGR was 40.8 percent. This mean had a standard deviation of 18.2 percent, meaning about two-thirds of public colleges reported IGRs of between 22.6 and 59.0 percent. About one-sixth of these institutions reported IGRs of less than 22.6 percent, and about one-sixth reported IGRs of greater than 59.0 percent.

Among traditional admission private colleges that award only bachelors degrees the average IGR was 52.4 percent. The SD of the mean was 14.3 percent, meaning that two-thirds of these private colleges reported IGRs of between 38.1 and 66.7 percent. About one-sixth of these institutions reported IGRs of greater than 66.7 percent, and another sixth reported IGRs of less than 38.1 percent.

The standard deviations of the reported IGRs for each level and control of baccalaureate degree-granting institution is typically in the 10 to 20 percent range. That is to say, for any group of institutions, IGRs vary widely. This means that some institutions do a far better job than do otherwise similar institutions of graduating the academically-similar freshmen that they admit.

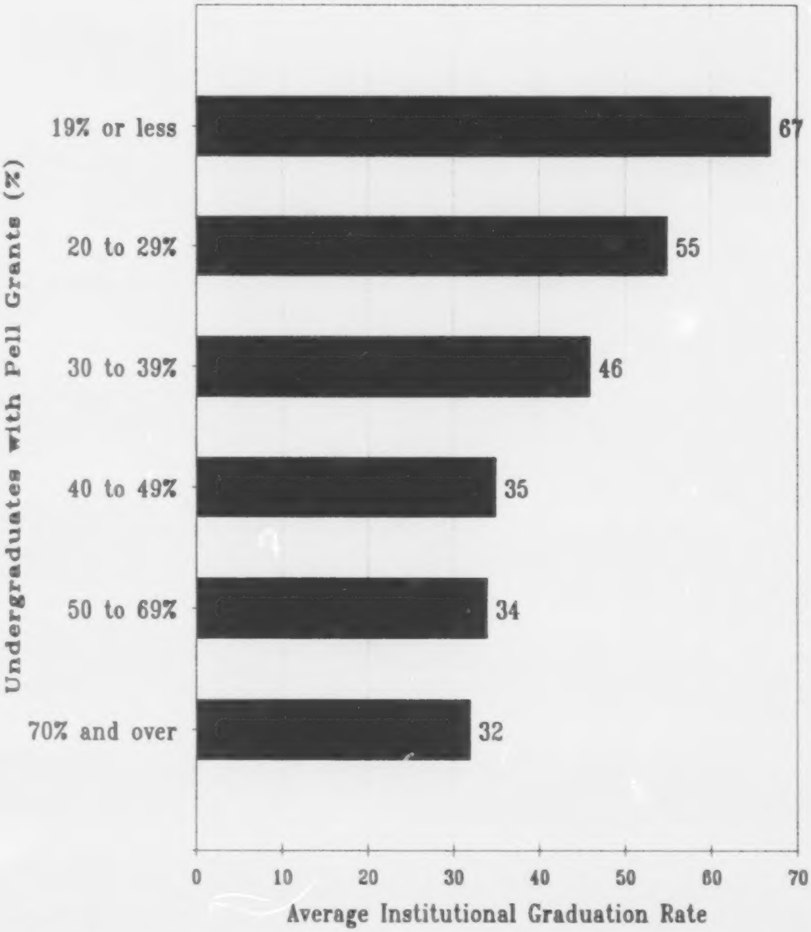
OPPORTUNITY has studied and reported on this variance in the April 1997 (#58) and June 1997 (#60) issues. These issues are available for downloading from our website at www.postsecondary.org under the Archives button. These analyses reflect our attempts to explain these differences. Currently these two studies are being updated by OPPORTUNITY staff, with expected publication of the new findings in mid 2000 issues of OPPORTUNITY.

Low Income Representation

Institutional graduation rates can and have been calculated according to the proportion of an institution's full-time undergraduate enrollments that is receiving federal Pell Grants. These Grants are clearly and consistently focused on students from low income family backgrounds, and thus serve as a useful proxy for the proportion of each campus' enrollment that comes from low income family backgrounds.

Public universities. The average 6-year IGRs for 95 public NCAA Division I universities grouped according to the proportion of their undergraduates receiving Pell Grants is shown in the chart on this page. Average IGRs ranged from 67 percent among the 26 universities with less than 20 percent Pell Grant recipients, to 32 percent for the 14 public universities where 70 percent or more of the undergraduates were Pell Grant recipients. In this analysis, only about a third of undergraduates graduated within 6 years of entering public universities where more than half the students were low income. However, about two-thirds graduated within 6 years where less than 20 percent of the undergraduates were low income.

6-Year Institutional Graduation Rates at Public 4-Year Institutions by Percent of Undergraduates with Pell Grants
1994



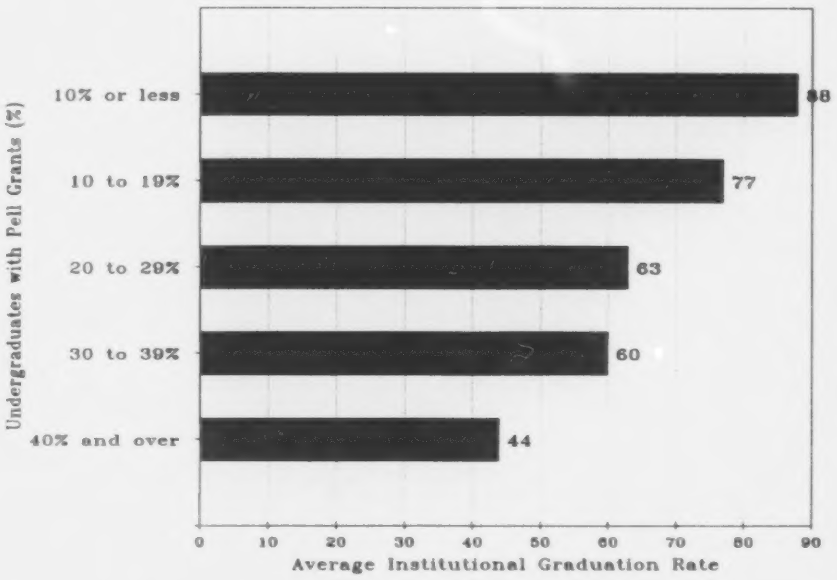
Private universities. A similar pattern appears in the data for private universities. IGRs ranged from 44 percent in the 12 private universities where 40 percent or more of the undergraduates were Pell Grant recipients, to 88 percent in the 16 private universities where 10 percent or less of the undergraduates were from low income families.

In both public and private university groups, considerable variation exists. Dr. Lee calculated IGRs at the 10th and 90th percentile ranges for each group by control and proportion of undergraduates that were from low income families. For example, for the

25 public universities with 40 to 49 percent of their undergraduates with Pell Grants, the average IGR was 35 percent. The 10th percentile for this distribution was 21 percent and the 90th percentile was 45 percent. Again we find that some schools do a better job graduating students from low income families than do others.

Institutional graduation rates continue to be an important measure of institutional performance. But raw IGRs that do not take into account the different academic and family income backgrounds of students confuse more than they illuminate what is happening within colleges and universities. Some institutions have learned to be more successful graduating the freshmen they admit than have others. OPPORTUNITY will continue to report on this regularly over the next year in several analyses.

6-Year Institutional Graduation Rates at Private 4-Year Institutions by Percent of Undergraduates with Pell Grants 1994



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Number 89 **www.postsecondary.org** **November 1999**

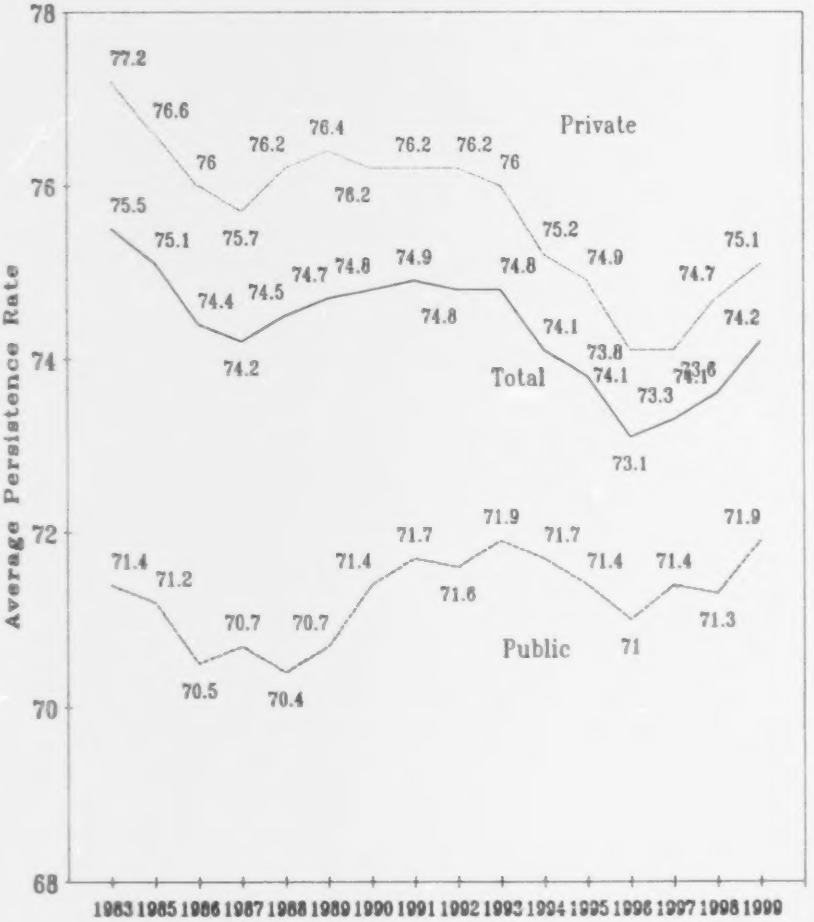
Freshman-to-Sophomore Persistence 1983 to 1999

In baseball, to score a run a player has to reach all four bases. To have a chance to score, the batter first must be in the game, then must get to first base, and from there must advance--base by base--to home plate. At some point the base runner must get from first to second base.

To complete a college degree, a student must apply to college--to be in the game to use the baseball metaphor. If he or she gets a hit or walks to first base (access) there arises a real chance of eventually scoring (graduation). But three bases or years of college remain. Getting from first to second base (persistence), like getting from the first to the second year of college, is tough. Not all who get to first base make it to second (dropout), and unless the player reaches second base there is no chance of ever scoring a run.

Colleges normally monitor and now usually coach the progress of admitted students towards graduation through strategies of academic and social integration through learning communities. Colleges and universities understand that retaining the students they enroll as freshmen is less expensive than recruiting new freshmen to replace those who drop out before graduation.

Freshman-to-Sophomore Persistence Rates
at Public and Private 4-Year Institutions
1983 to 1999



Moreover, outsiders look carefully at the success (or lack thereof) colleges have in graduating the students they admit. *U.S. News*, for example, compares each institution's actual graduation rate to the rate predicted for the institution controlling for the academic aptitude of the freshmen admitted and the financial resources available to the institution to support the students they enroll. Those institutions that are more successful with the academic talent that they admit are rewarded in the *U.S. News* ranking, while those that are less successful are penalized.

Here we examine the rate at which freshmen admitted to 4-year and 2-year colleges make it to their second year of college at the same institution.

- Nationally, in 1999 74.2 percent of the freshmen admitted to 4-year colleges enrolled for their second year at the same institution.
- In 2-year colleges it was 55.2 percent in 1999.

These frosh-to-soph persistence rates are generally interesting, but they become even more so when analyzed over time, across institutional controls, and especially when the academic backgrounds of enrolled freshmen cohorts are controlled for.

What our analysis here finds is that for the last three years there have been notable improvements in frosh-to-soph persistence rates in 4-year colleges and universities. (This has not been true in 2-year colleges.) These gains appear to reflect the success of institutional efforts to improve student persistence in college since about 1996. These gains, while modest, reverse declines in persistence that occurred between 1983 and 1996, particularly in private colleges and universities.

Many other important findings appear in our analysis of these data. Among them are:

- Freshman-to-sophomorepersistence is normally greater in private colleges and universities than it is in public institutions.
- Institutional persistence rates (IPRs) are largely determined by the academic backgrounds of admitted freshmen. Persistence rates are generally highest in the most academically selective institutions, and lowest in those that practice open door admissions.
- Four-year colleges and universities--both public and private--have become more academically selective since 1983.

The Data

The data used in this analysis were collected, tabulated and reported by ACT. Each year ACT sends to colleges and universities its Institutional Data Questionnaire (IDQ). Data collected in the IDQ is used for a variety of purposes including the ACT Assessment, *College Planning and Search Book*, and other purposes.

The data used in this analysis were collected by ACT from 2514 public and private 2-year and 4-year colleges and universities.

Degree Level	Public	Private
2-year	752	141
BA/BS	66	481
MA/1st professional	231	483
PhD	198	162
Total	1247	1267

One of uses of ACT's IDQ data is ACT's annual *National Dropout and Graduation Rate Report*. This report, prepared by Dr. Wes Habley (319/337-1000 or habley@act.org), cross-tabulates data on freshmen-to-sophomore persistence rates (and 5-year graduation rates) by each institution's self-reported admissions selectivity. Some of these data are reported on ACT's website at:
www.act.org

The five selectivity categories in ACT's IDQ survey are:

- *Highly selective.* Majority of accepted freshmen in top 10% of high school graduating class.
- *Selective.* Majority of accepted freshmen in top 25% of high school graduating class.
- *Traditional.* Majority of accepted freshmen in top 50% of high school graduating class.
- *Liberal.* Some freshmen from lower half of high school graduating class.
- *Open.* All high school graduates accepted, to limit of capacity.

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Mission Statement
This research letter is founded on t fundamental beliefs. First, sound public soc policy requires accurate, current, independe and focused information on the hum condition. Second, education is essential to t development of human potential and resourc for both private and public benefit. Therefo the purpose of this research letter is to info those who formulate, fund, and adminis public policy and programs about the conditi of and influences that affect postsecond education opportunity for all Americans.

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ACT provides typical admissions test score intervals for the preceding admissions classifications as follows:

Selectivity	ACT	SAT
Highly selective	27-31	1220-1380
Selective	22-27	1030-1220
Traditional	20-23	950-1070
Liberal	18-21	870-990
Open	17-20	830-950

Act reports the data collected in the IDQ as dropout rates. We convert these data to persistence rates by subtracting the reported dropout rate from one.

Persistence Rate Trends

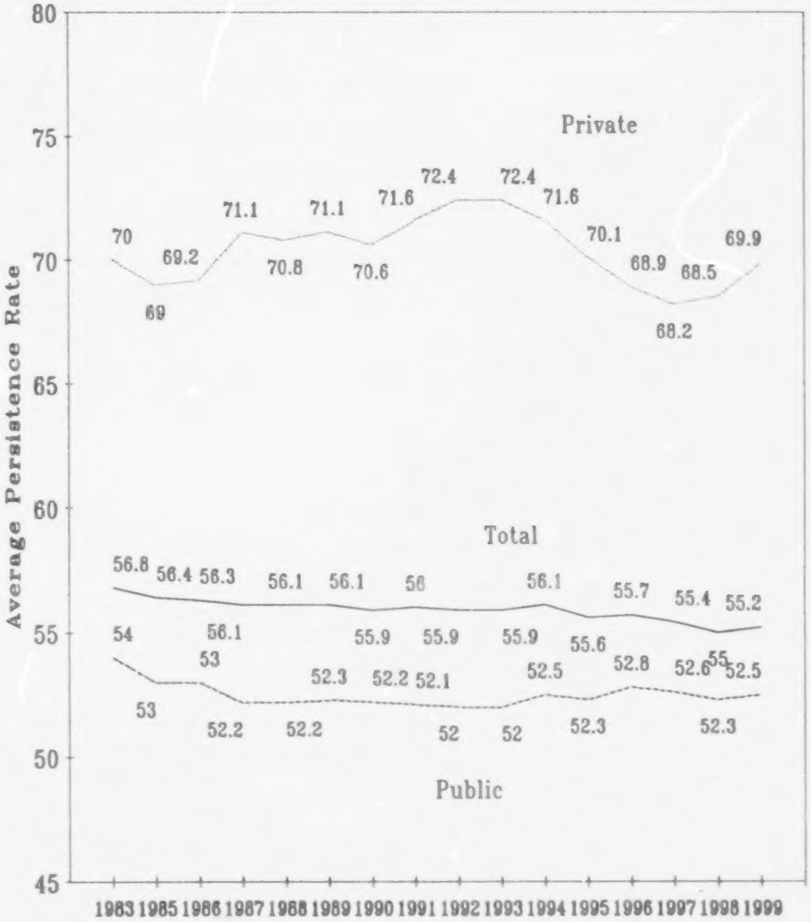
Four-year institutions. As shown in the chart on page 1 of this issue of **OPPORTUNITY**, in 1999 the rate at which freshmen persisted to the sophomore year of college in 4-year institutions was 74.2 percent. This is the third successive year of small but important reported increases. In 1996 the persistence rate had reached a low of 73.1 percent. In 1983 when these data were first reported by ACT, the persistence rate had been 75.5 percent.

Private 4-year college persistence rates have always been higher than those in public institutions, although this gap is clearly closing since 1983. In 1999 the frosh-to-soph persistence rate was 75.1 percent. This is up from a low if 74.1 percent in 1996 and 1997, but below the 1983 rate of 77.2 percent.

The public 4-year persistence rate was 71.9 percent--the same as the peak reached in 1993. This is the highest on record for data back to 1983. The lowest rate was reached in 1988 when it was 70.4 percent.

The gap between private and public institution persistence rates has slowly closed. In 1983 it stood at 5.8 percent. By 1990 it had narrowed to 4.8 percent. And by 1999 it had narrowed further to 3.2 percent.

Freshman-to-Sophomore Persistence Rates
at Public and Private 2-Year Institutions
1983 to 1999



Two-year colleges. As shown in the chart on this page, freshman-to-sophomore persistence rate in 2-year colleges are considerably lower than are those for 4-year institutions. And they show relatively little fluctuation between 1983 and 1999.

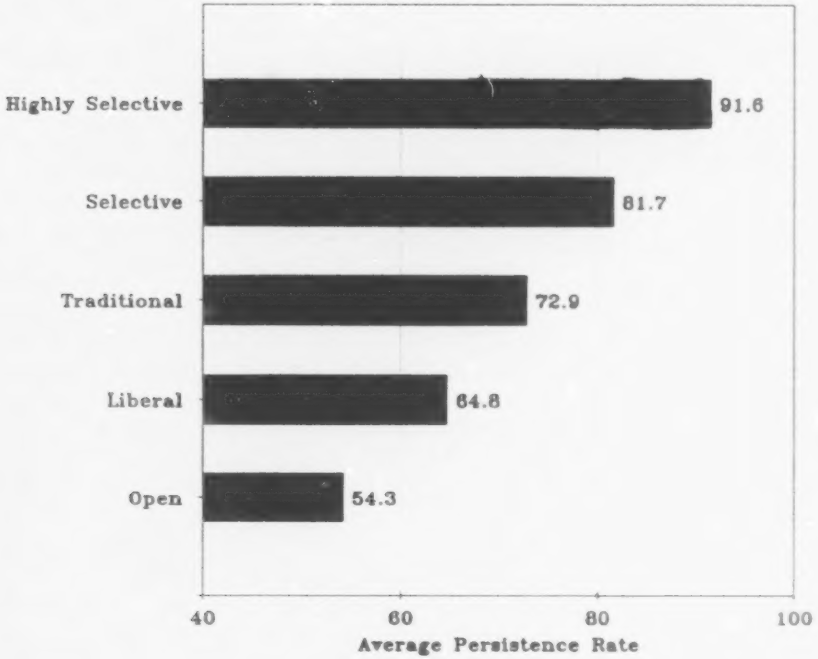
Persistence rates are notably higher in private 2-year colleges than they are in the publics. In 1999 they stood at 69.9 percent. This was below the peak of 72.4 percent reached in 1992 and 1993. The 1999 rate was nearly identical to the rate in 1983.

The persistence rate in public 2-year colleges was 52.5 percent in 1999. This was below the peak of 54.0 percent in 1983. But since about 1987 there has been almost no fluctuation to these data--its almost a flat-line.

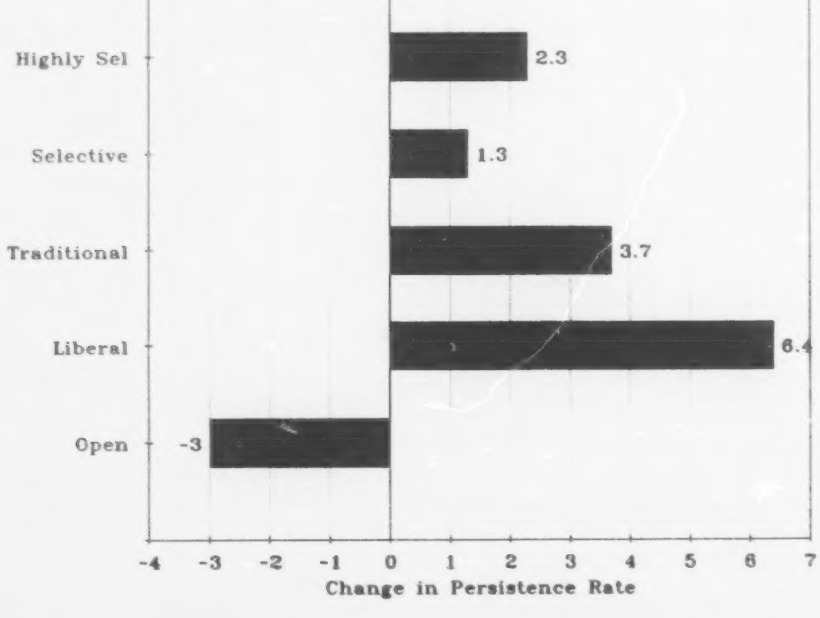
Persistence by Academic Selectivity

The most important aspect of the way ACT compiles and reports the dropout data is the cross-tabulation of dropout rates with admissions selectivity of institutions. Abundant research consistently finds that those most likely to persist and graduate from

Freshman-to-Sophomore Persistence Rates by Academic Selectivity at 4-Year Institutions 1999



Change in Freshman-to-Sophomore Persistence Rates by Academic Selectivity 1989 to 1999



college are those who had strongest academic records before t entered college.

Thus it follows that those colleges t admit freshmen with the strongest p college academic records should h the highest persistence rates, and ot less selective institutions should expected to have somewhat lo persistence rates. In fact this exactly what we find in the ACT d

As shown in the chart on this pa freshmen-to-sophomore persiste rates in 4-year colleges universities are highest for the m selective institutions, and lowest the least selective institutio (Because nearly all 2-year colleges open-door, analysis of persiste rates by academic selectivity is examined here.) In 1999 they ran from 54.3 percent at open admissi colleges, to 91.6 percent at hig selective institutions.

Trends. Between 1989 and 19 overall freshman-to-sophom persistence rates declined sligh from 74.7 to 74.2 percent. Howe a somewhat different pattern emer when academic selectivity controlled. As shown in the top c on the next page, IPRs increased four out of five levels of acade selectivity. The largest gain in I was among 4-year institutions practiced liberal admissions. O among institutions that practiced o admissions did persistence r decline.

Control. At most levels of acade selectivity persistence rates are gre in private colleges than they are in publics. However, when acade selectivity in admissions is controll the average difference is shar reduced. For example, the aver institutional persistence rate (IPR) all private 4-year institutions is percentage points greater than it is publics. Controlling for acade selectivity, however, reduces this average difference to about 1.6 percentage points.

Between 1989 and 1999, IPRs in private institutions declined overall, from 76.4 to 75.1 percent. This decline occurred at most levels of academic selectivity in private colleges and universities. As shown in the chart on the right, persistence rates declined the most at selective, traditional and liberal admissions institutions.

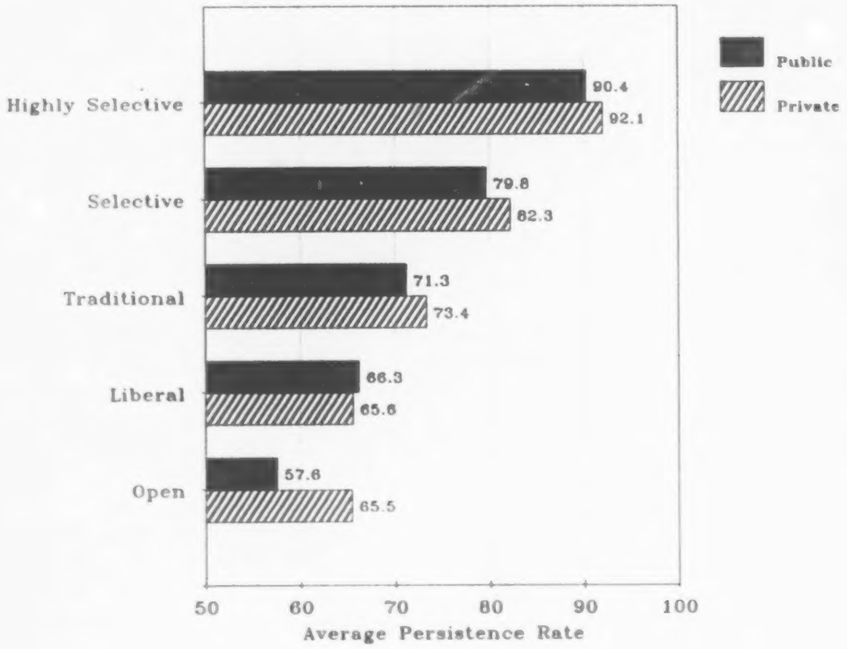
In public institutions, between 1989 and 1999 overall persistence rates increased from 70.7 to 71.9 percent. When academic selectivity is controlled, the gains are limited to those institutions practicing either highly selective or liberal admissions policies.

Parental income. One of the striking and very important correlations for both students and institutions is the one between family income and academic performance. Generally, average academic performance (high school grades, high school class rank, SAT, ACT, etc.), increases directly with family income. This correlation begins with the individual student, and aggregates to the institution as well.

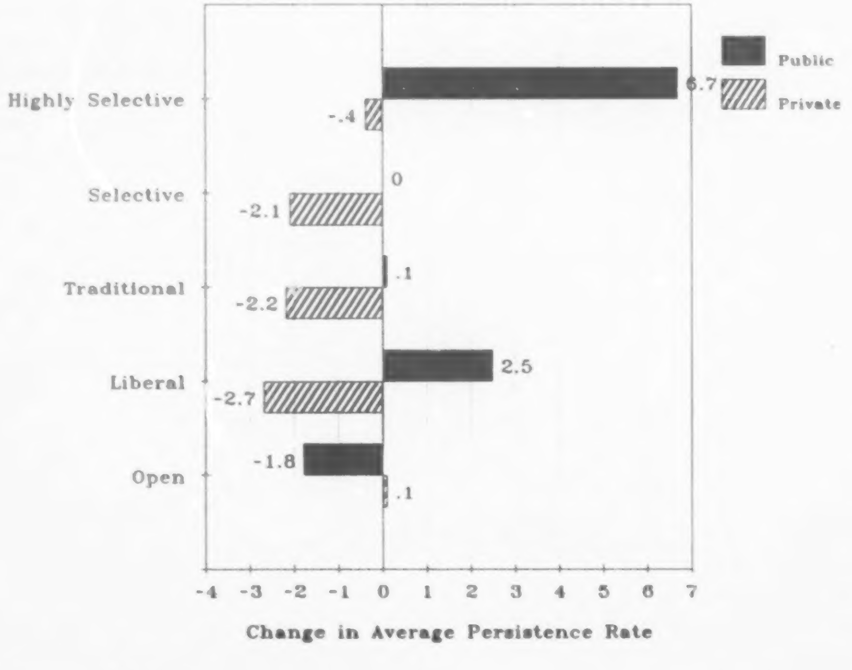
For example, in public 4-year colleges, median estimated parental income was $49,160 at low selectivity colleges, $57,111 at median selectivity colleges, and $63,519 at high selectivity public colleges in 1998, according to the UCLA *Freshman Survey*. (The UCLA *Freshman Survey* uses its own measure of admissions selectivity which is slightly different from ACT's. However, for illustration purposes, the correlation still holds.) This pattern holds for all types and controls for 4-year institutions.

From this we may conclude that frosh-to-soph persistence rates are higher

Freshmen-to-Sophomore Persistence Rates by Academic Selectivity and Control at 4-Year Institutions 1999



Change in Freshman-to-Sophomore Persistence Rates by Academic Selectivity and Control at 4-Year Institutions 1989 to 1999



(actually, considerably higher) for students from families with high family incomes than they are for students who come from families with low incomes. Independent evidence from studies of institutional graduation rates finds the same thing.

Level, control and selectivity. Finally we examine freshman-to-sophomore institutional persistence rates by highest degree offered (level), control and admissions selectivity. This analysis is, of course, limited to bachelor's degree granting institutions because nearly all public 2-year colleges practice open door admissions.

As the chart on the bottom of this page shows, adding the control for highest degree offered adds a small amount to our understanding of IPRs. In public institutions, at each level of academic selectivity, PhD degree granting institutions have slightly higher persistence rates than do institutions that offer up to the bachelor's or master's degrees. And generally, public BA-granting colleges had slightly lower average IPRs at each level of admissions selectivity than did MA-granting institutions.

However, as this chart makes clear, of far greater importance than highest degree offered is the degree of admissions selectivity practiced by the public institution. Always the highest average persistence rates were in the most selective public institutions, and the lowest average persistence rates were in the least selective (open) admissions institutions.

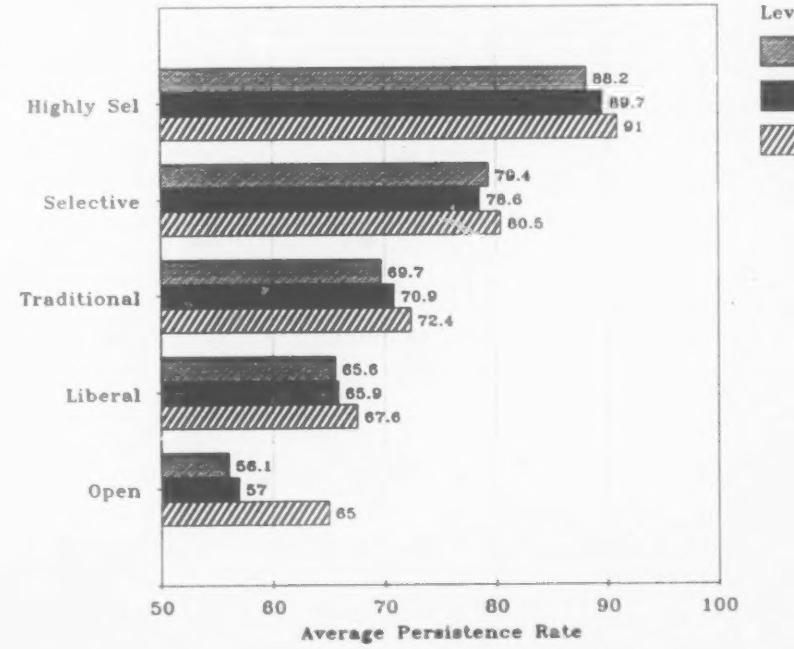
Generally the same patterns hold in private bachelor's degree-granting colleges and universities. Controlling for admissions selectivity, persistence rates are generally somewhat greater in PhD-granting universities than private institutions that only award up to BA or MA degrees. But as this chart also makes clear, persistence

Median Estimated Parental Income for College Freshmen by Institutional Level, Control and Academic Selectivity 1998

	Academic Selectivity				All
	Low	Medium	High	Very High	
Two-Year	-	-	-	-	$41,7
Public	-	-	-	-	$41,2
Private	-	-	-	-	$48,9
Four-Year	-	-	-	-	$55,3
Public	$49,160	$57,111	$63,519	-	$53,4
Nonsectarian	$55,814	$57,742	$63,147	$86,213	$61,3
Protestant	$49,194	$59,225	$68,061	-	$54,7
Catholic	$53,158	$55,455	$74,662	-	$59,3
Black	-	-	-	-	$33,3
Public	-	-	-	-	$32,7
Private	-	-	-	-	$34,9
Universities	-	-	-	-	$66,1
Public-men	$63,524	$65,032	$74,440	-	$63,1
Public-women	$57,339	$58,898	$67,782	-	
Private-men	$68,382	$91,438	$96,622	-	$81,2
Private-women	$60,458	$86,796	$95,472	-	
All Instituions	-	-	-	-	$52,8

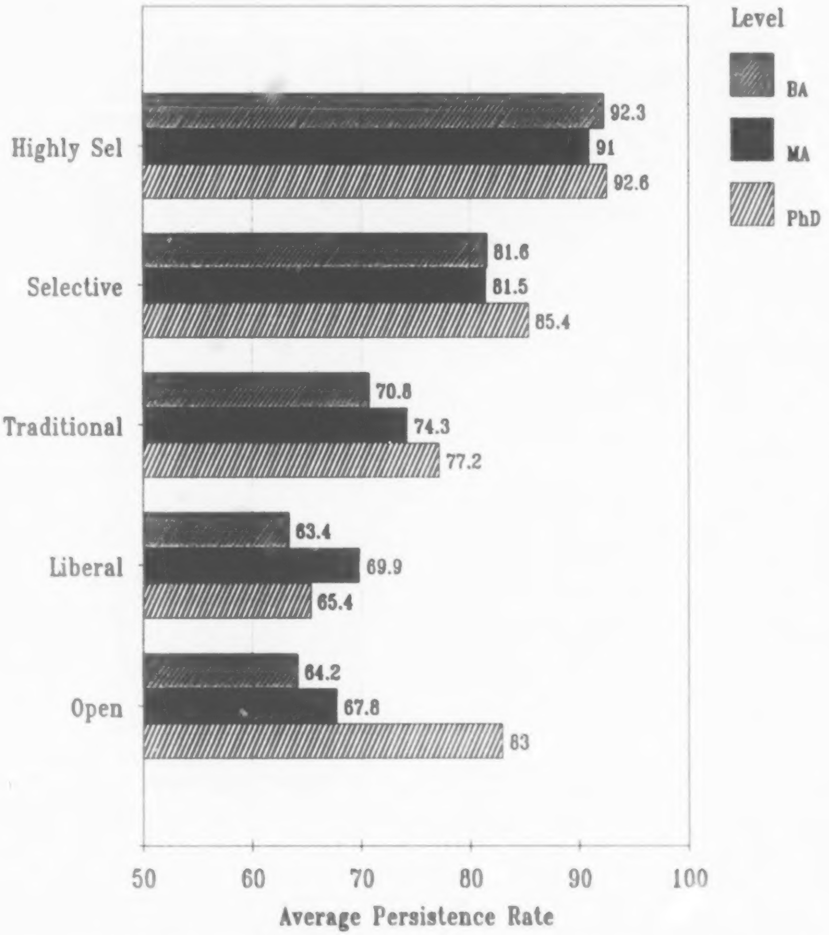
Source: *The American Freshman: National Norms for Fall 1998.*

Freshman-to-Sophomore Persistence Rates at Public 4-Year Institutions by Level and Selectivity 1999



rates are primarily determined by admissions selectivity. IPRs are highest at the most selective institutions (which tend to enroll students from the highest income families) and lowest at the least selective institutions (which tend to enroll students from the lowest income families).

Freshman-to-Sophomore Persistence Rates at Private 4-Year Institutions by Level and Selectivity 1999



Admissions Selectivity

Over at least the last 15 years, both public and private bachelor's degree-granting colleges and universities have grown more selective in their freshman admissions practices. This has expanded higher educational opportunities at public and private 4-year institutions for students with strong high school academic records (and high family incomes). This trend has also reduced 4-year college access points for students with middle-range to weak pre-college academic records (and lower family incomes).

Between 1989 and 1999, more 4-year institutions have been reporting that they practice highly selective, selective or traditional admissions, and fewer are reporting that they are practicing liberal or open admissions. These data were more thoroughly examined in the December 1998 issue of **OPPORTUNITY** (#78). However, with ACT's release of the *1999 National Dropout and Graduation Rate Report*, we can update the previously reported data.

As shown in the chart on the next page, the proportion of bachelor's degree-granting institutions that report practicing highly selective admissions increased from 109 to 119 between 1989 and 1999, an increase of 9.2 percent. One public institution was added to the total, and nine private institutions became highly selective during the last decade.

The number of institutions reporting selective admissions practices increased from 335 to 410, or by 22.4 percent between 1989 and 1999. Of the total increase of 75 institutions, 32 were public and 43 were private.

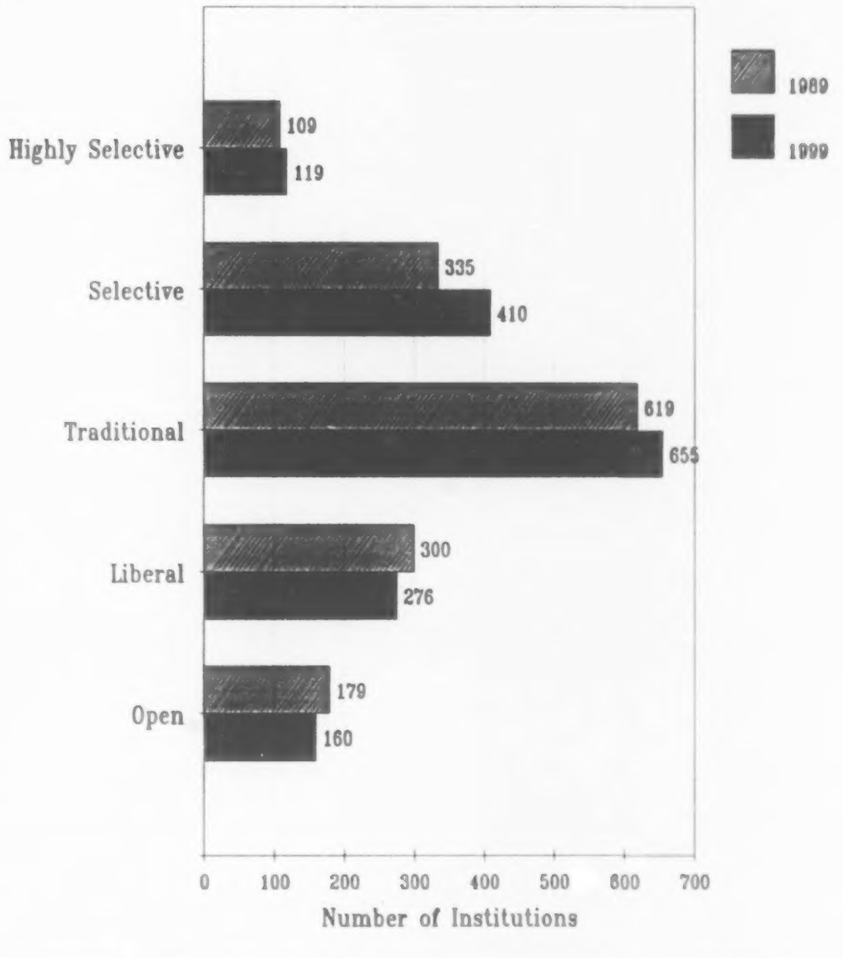
The number of institutions reporting practicing traditional admissions increased from 619 to 655 over the last decade, or by 5.8 percent. Of the total increase of 36 institutions, 27 were public and 9 were private.

The number of institutions reporting liberal admissions practices decreased from 300 to 276 between 1989 and 1999, or by 8.0 percent. Of the total decrease of 24, 17 were public and 7 were private colleges.

The number of 4-year institutions reporting open admissions practices declined from 179 in 1989 and 160 in 1999, or by 10.6 percent. Of the decrease of 19 institutions, 5 were public and 14 were private.

Estimated parental income. The consequences of this supply constraint on the distribution of college freshmen from different family income backgrounds (approximately equal to pre-college academic records) can be

Number of 4-Year Colleges and Universities by Academic Selectivity 1989 and 1999



approximated with data from the UCLA *Freshman Survey*.

We have calculated median estimated parental income for first-time, full-time college freshmen by institutional type and control and for all freshmen. We have made these calculations for freshmen classes beginning their studies in 1975, 1980, 1985, 1990, 1995, 1997 and 1998. For each year we have then compared the median estimated parental income for freshmen at each type/control of institution to the median for all entering freshmen.

For example, at public 2-year colleges, this comparison produces the following results:

	Median Parental Income		2-Year
Year	All Frosh	2-Year Frosh	Percent of All
1975	$15,546	$13,579	87.3%
1980	22,818	20,191	88.5%
1985	34,286	30,276	88.3%
1990	42,460	36,633	86.3%
1995	48,960	37,871	77.4%
1997	52,941	42,097	79.5%
1998	52,833	41,269	78.1%

That is, between 1975 and 1990, median estimated parental income fo first-time, full-time public 2-yea college freshmen averaged about 8 percent of the median for all colleg freshmen. But for the period betwee 1995 and 1998 the average for publi 2-year colleges is now about 7 percent of the average for al freshmen.

Between 1980 (when the real prices o college attendance began their shar annual increases) and 1998, th median estimated parental incomes o freshmen by institutional type an control changed as follows:

Public 2-year	-10.1%
Private 2-year	+7.8%
Public 4-year	+4.8%
Nonsectarian 4-year	+4.1%
Protestant 4-year	+4.8%
Catholic 4-year	-0.5%
Public universities	-0.1%
Private universities	+10.3%
Public black colleges	+28.6%
Private black colleges	+13.9%

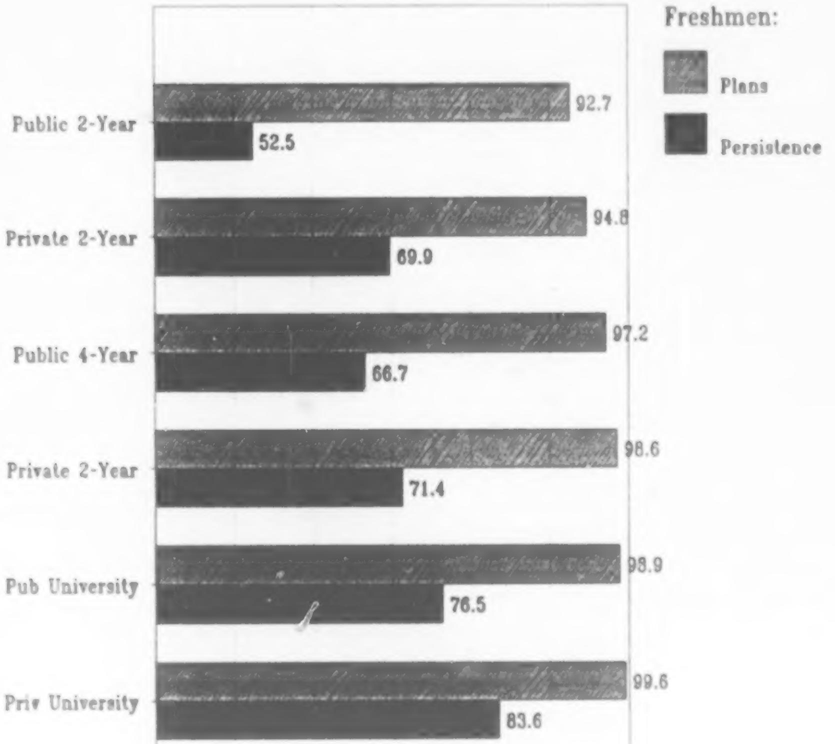
The interpretation of the above data i as follows. Those institutiona types/controls with pluses enrolle more affluent freshmen between 198 and 1998 from the population of al college freshmen. Those institutiona types/controls with minuses enrolle fewer affluent freshmen in 199 compared to 1980.

Obviously, public 2-year colleges wer the big gainers in enrolling a increasing share of students from lower income families. Catholic 4-year colleges and public universitie enrolled about the same proportion o lower and upper family incom freshmen in 1998 compared to wha they enrolled in 1980. All othe institutional types/controlle institutions enrolled a smaller share o lower family income freshmen and larger share of higher family incom freshmen in 1998 compared to th population they served in 1980. Thes institutions included public and privat

Median Estimated Parental Income for First-Time, Full-Time College Freshmen by Institutional Type and Control 1975 to 1998

Year	All	2-Year		Black		4-Year				Universities	
		Public	Private	Public	Private	Public	Nonsect	Protest	Catholic	Public	Private
1975 % of All	$15,546	$13,579 87.3%	$12,648 81.4%	$7,116 45.8%	$6,145 39.5%	$15,355 98.8%	$18,205 117.1%	$15,399 99.1%	$16,696 107.4%	$18,730 120.5%	$23,250 149.6%
1980 % of All	$22,818	$20,191 88.5%	$19,343 84.8%	$7,600 33.3%	$11,942 52.3%	$22,000 96.4%	$25,980 113.9%	$22,568 98.9%	$25,739 112.8%	$27,292 119.6%	$32,767 143.6%
1985 % of All	$34,286	$30,276 88.3%	$34,993 102.1%	$12,092 35.3%	$21,500 62.7%	$32,325 94.3%	$37,619 109.7%	$35,735 104.2%	$37,113 108.2%	$40,576 118.3%	$51,333 149.7%
1990 % of All	$42,460	$36,633 86.3%	$40,459 95.3%	$28,438 67.0%	$28,333 66.7%	$40,662 95.8%	$51,038 120.2%	$42,353 99.7%	$47,500 111.9%	$49,840 117.4%	$67,667 159.1%
1995 % of All	$48,960	$37,871 77.4%	$45,789 93.5%	$28,605 58.4%	$40,097 81.9%	$48,168 98.4%	$56,518 115.4%	$52,248 106.7%	$55,076 112.5%	$58,810 120.1%	$72,664 148.4%
1997 % of All	$52,941	$42,097 79.5%	$44,747 84.5%	$33,451 63.2%	$38,230 72.2%	$51,920 98.1%	$60,814 114.9%	$54,286 102.5%	$58,824 111.1%	$62,838 118.7%	$81,678 154.3%
1998 % of All	$52,838	$41,269 78.1%	$48,939 92.6%	$32,727 61.9%	$34,956 66.2%	$53,465 101.2%	$61,333 118.0%	$54,762 103.7%	$59,316 112.3%	$63,121 119.5%	$81,295 153.9%
Change: 80>98		-10.1%	+7.8%	+28.6%	+13.9%	+4.8%	+4.1%	+4.8%	-0.5%	-0.1%	+10.3%

Calculated by OPPORTUNITY from *The American College Freshman, National Norms for 19XX*, UCLA, annual.


Degree Planned at This Institution is 2 Years or More
Compared to Frosh-to-Soph Persistence Rate
by Institutional Level and Control
Fall 1997 Freshmen, Fall 1998 Sophomores

black colleges, private 2-year colleges, public, nonsectarian and protestant 4-year colleges and private universities.

Plans versus Persistence

According to the 1997 UCLA survey of American college freshmen, 96.4 percent planned to earn at least a 2-year degree at the same institution where they had just begun their collegiate studies. However, according to the ACT report, only 67.4 percent of the freshmen that started in 1997 returned in the fall of 1998 for their second year of study.

Large disparities exist between freshmen plans and persistence at all types and controls of collegiate institutions, as shown in the chart on this page. The disparity is by far the largest in public 2-year colleges at 40.2 percent. But it is also very large--ranging from 16 to 30.5 percent in 4-year colleges as well.

This disparity between plans and persistence describes a serious disjuncture between student expectations and behaviors. While nearly all entering freshmen plan to complete at least a 2-year degree at the school where they begin th studies, fully a third dropout bef their second year of study. Somethi sufficiently serious has intervened deter the student from fulfilling his her plans for college.

Colleges have a vital interest helping students meet their acaden objectives. It is usually less expensi for a college to retain an enroll student than it is to recruit a new or and colleges are coming to be rated outsiders according to their graduati rates.

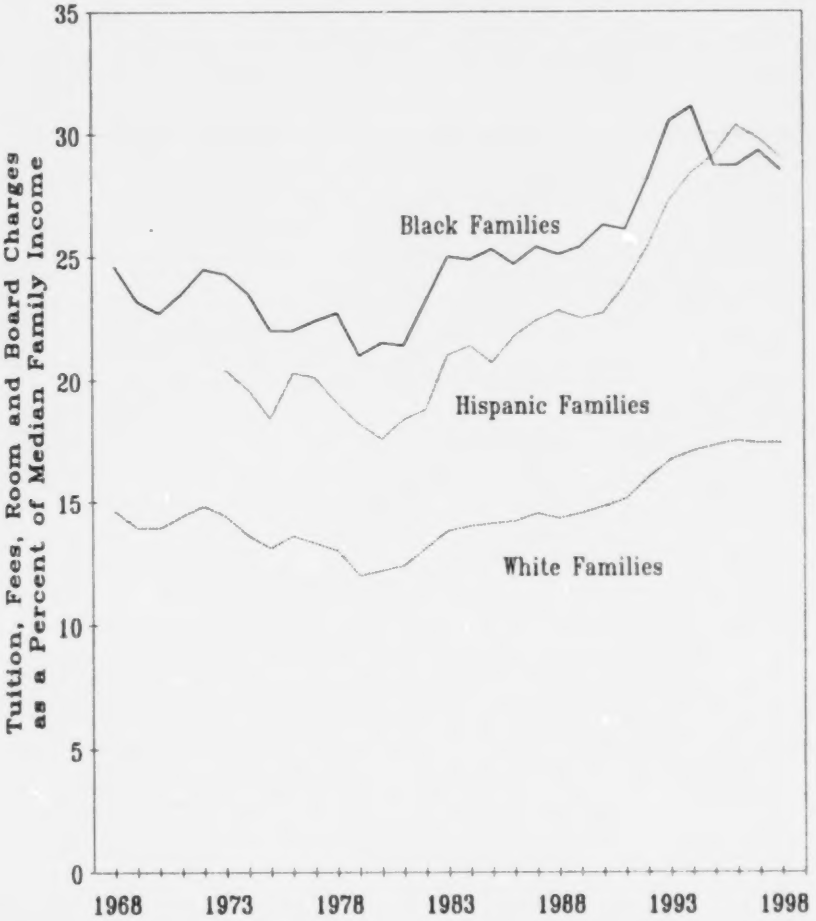
But most important, by far, is the r colleges perform in assisting th students to fulfill their potential a achieve their goals. To accompli this, institutions must become m successful retaining the students th enroll.

Evidence reported here indicates t indeed higher education overall h seen improved freshman-to-sophom persistence between 1996 and 19 The gains are small, but clearly i direction that closes a portion of t gap between students plans and th persistence. The gains are r uniform across higher educati because public institutions appear to making greater progress than h private institutions over the l decade.

In fact we know a great deal ab what fosters student success in colle We know that designing support academic and social environments students--sometimes called learni communities--enables them overcome the inevitable challenges t the transition to adulthood and academic rigors of the learni experience pose. This is more th instruction. This requires thought planning and design, it requi serious faculty and staff commitm to the success of the students w come to campus expecting to grow. can work because it does work.

Monitoring college affordability . . .

Institutional Charges and Family Income
1968 to 1998



Public University Institutional Charges
as a Percent of Median Family Income by Race/Ethnicity
Fiscal Years 1968 to 1998

This brief analysis updates our previous reports on the relationship of college attendance costs to family resources available to pay them. Basically this is college affordability analysis.

Our measure of college attendance costs is institutional charges, which are the largest portion of student budgets. But these charges do not include allowances for books and supplies, travel, and personal and medical living costs. We use several measures of family income including medians and quartiles, as well as median family incomes for the major racial/ethnic groups of the population.

Since about 1980, institutional charges have increased much faster than have family incomes. These institutional charges include tuition and fees, and room and board. In the aggregate for all families:

- *Median family income for all families, adjusted for inflation, increased by 12.6 percent between 1980 and 1998.*
- *During this same period, average institutional charges adjusted for inflation increased by 71.6 percent.*
- *Also during this same period, the Pell Grant maximum award, adjusted by the same inflation measure, declined by 24.2 percent.*

This, in a nutshell, reflects the higher education financing dilemma faced by families: higher costs, stable incomes, declining financial aid.

In public higher education, institutions have increased charges to students to offset losses in state appropriations for higher education. Private institutions have seen the public sector tuition increases and have chosen to emulate them, not to offset losses in state support but to take advantage of market opportunities and internal institutional needs such as faculty and administrative compensation.

Different Effects on Different Families

The increases in institutional charges to students (and their families) since 1980 have had quite different effects on different families. These differential effects result entirely from differences in family incomes for different groups of families.

Here we examine the effects of the higher education cost-shift from taxpayers to families for distinct types of families with different levels of family income.

Race/ethnicity. In CY1997, median family income for whites was $46,754. This compares to median family income of $28,602 for blacks and $28,142 for Hispanics. These are medians for all families of each group as reported by the Census Bureau.

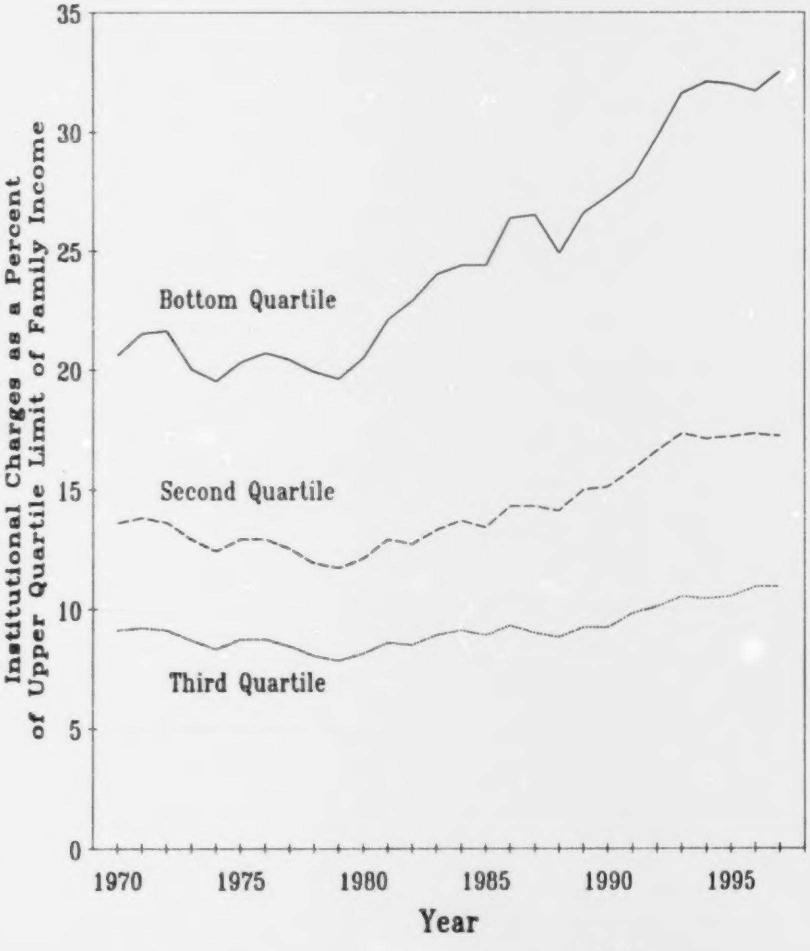
U.S. Census Bureau. Current Population Reports, P60-206. *Money Income in the United States: 1998.* U.S. Government Printing Office, Washington, DC, 1999.

(By comparison, we have calculated median family income for families with dependent children between the ages of 18 and 24 years from the Census Bureau P20 report for 1998 as follows:

All Races	$48,028
White, non-Hispanic	$59,467
Asian, Pacific Islander	$50,638
Black, non-Hispanic	$27,042
Hispanics, any race	$25,867)

Because the institutional charges are the same for everyone (before financial aid), differences in family income account for the differences in the ratio of price to income. In FY1998, the burden was lowest for whites families: 17.4 percent. But for black families this ratio was 28.5 percent, and for Hispanic families it was 29.0 percent.

Public University Institutional Charges
as a Percent of Family Income by Quartiles
Fiscal Years 1970 to 1998



What the chart on the previous page shows is the uneven effect of the cost-shift from taxpayers to students since 1980 on minority students and their families. Between FY1980 and FY1998, the ratio of price to income increased by 5.2 percentage points for whites, by 7.0 percentage points for blacks, and by 11.4 percentage points for Hispanics.

Family income quartiles. The chart on this page plots the price to income ratios for families at the upper limits of family income quartiles for those with 18 to 24 year old dependent family members. For example, in FY1998, the bottom quartile of family income ranged from zero to $25,063, the second quartile from $25,063 to $47,405, the third quartile from $47,405 to $74,583, and the top quartile from $74,583 on up.

For FY1998, the price to income ratio was 32.5 percent for the upper limit of the bottom family income quartile, 17.2 percent at the median, and 10.9 percent at the third quartile limit. Between FY1980 and FY1998, the price to income ratio increased by 12.0 percentage points for families with incomes in the bottom quartile of family income. The increase was 5.1 percentage points in the second quartile, and just 2.8 percentage points in the third quartile.

This brief analysis finds that the cost shift since 1980 from taxpayers to students in public universities has hit some families very hard, and barely touched other families. Those families hit hardest are Hispanics, blacks and those with lowest incomes. Those families least affected are whites and those with highest incomes.

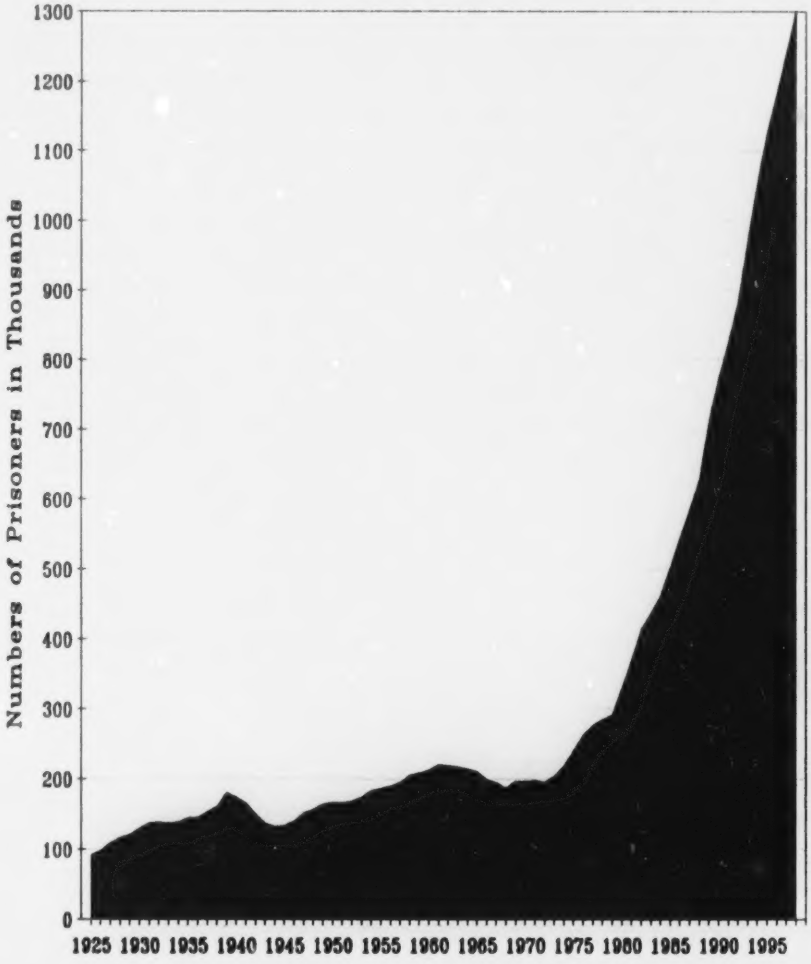
American world leadership . . .

Prisoners

One of the most visible and distinguishing features of social policy in the United States is incarceration. Americans are fascinated by locking up fellow citizens in jails and prisons. By now we are probably the world leader in the rate at which we put our fellow citizens behind bars. While we scrounge for marginal dollars for education, we splurge them on prisons. No politician advocates tax increases, but one of the more common cheap political tricks of election is to promise to be hard on criminals--without acknowledging or taking responsibility for the fact that this commitment comes at a very steep price.

Another perspective on American fascination with incarceration is that it directly reflects our ineffectiveness at dealing with the causes of human behavior that result in prisons. Poverty, income disparity, poor schools, weak family structures--all these are well known root causes that lead to adult criminal behavior. Yet like the proverbial ostrich who hides from problems by sticking his head in the sand, we emphasize treatment of symptoms in our social policy. We remain steadfastly in retreat from addressing causes. Because of this approach, and in the context of changing American demographics that provide fertile ground for more criminal behavior in the future, prisons are likely to continue to be a major American growth industry.

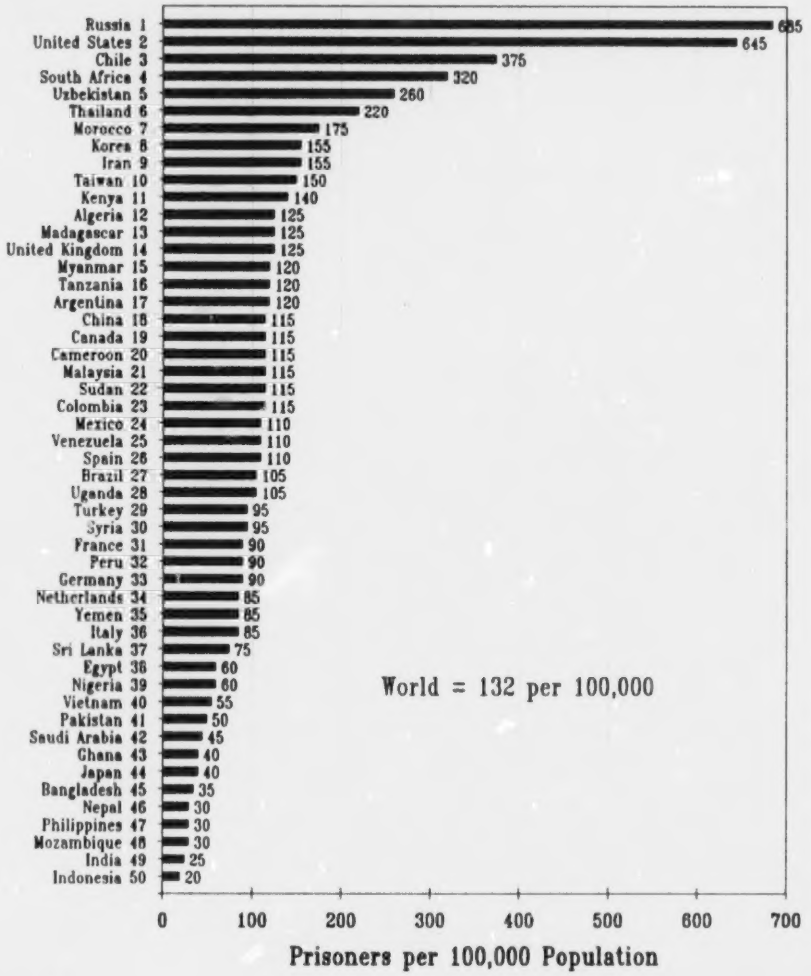
Prisoners in State and Federal Prisons
1925 to 1998



One of the casualties of this myopic, tunnel-view of criminal behavior is the shift in state funds from higher education to prisons. State "leaders" have decided that investing in prisons is a higher priority than is investing in the higher educations of today's youth. So, since about 1980, state tax resources have been diverted from higher education to prisons. Public higher education has raised tuition charges to students to offset the loss of state support, and no one has provided financial aid to those who need it to cover the higher tuition rates that result. (See previous article.)

Here we revisit a theme we have addressed in several past issues of OPPORTUNITY. We look at the American fascination with incarceration. We look at its size and structure, how we compare with the world, and in particular at its costs, particularly from the state perspective. In every sense, prisons are a competitor with higher education for state funding. And prisons are winning.

International Incarceration Rates
1994 to 1998 Period



The Data

The data on U.S. prison populations and their costs come primarily from the Bureau of Justice Statistics (BJS) within the U.S. Department of Justice. The website for the BJS is:
http://www.ojp.usdoj.gov/bjs/

The Bureau of Justice Statistics publishes many short, highly informative analyses and reports on different aspects of the criminal justice system. One that we have used here is:

Stephan, James J. August 1999. *State Prison Expenditures, 1996.* Washington, DC: U.S. Department of Justice.

We have also used international data on incarceration rates supplied by Marc Mauer of The Sentencing Project in Washington, DC.

Prisoners in the U.S.

According to the Bureau of Justice Statistics, there were 1,302,019 prisoners in state and federal prisons in the United States at the end of 1998. During 1998 49,798 prisoners were added to state prisons, and 10,068 were added to federal prisons. During 1998 the prison population increased 1151 per week, which was up from weekly increases averaging 1130 in 1997. The U.S. prison population between 1925 and 1998 is shown in the chart on page 13 of this issue of OPPORTUNITY.

In addition to the federal and state prison population, 592,462 prisoners were behind bars in local jails at the end of 1998. This was up by 25,383 over 1997, which was up by 48,587 over 1996.

Of the total of 1,825,400 people behind bars, 64.6 percent were in state prisons, 6.7 percent were in federal prisons, and 32.5 percent were in local jails. Between 1990 and 1998, the average annual increase was 6.5 percent in prisons and 4.9 percent in local jails.

Incarceration rates are measured in two ways. By one way, the incarceration rate increased between 1990 and 1998 from one prisoner per 217 residents to one per 149 by 1998. The other method, used hereafter, measures incarceration rates as prisoners per 100,000 population. By this measure, the incarceration rate increased from 461 per 100,000 in 1990 to 672 per 100,000 by 1998.

Across the states, prisoner incarceration rates ranged from 117 per 100,000 in **Minnesota** to 1913 in the **District of Colombia**. The states with the highest incarceration rates at the end of 1998 were:

Dist of Columbia	1913
Louisiana	736
Texas	724
Oklahoma	622
Mississippi	574
South Carolina	550

Nevada	542
Alabama	519
Arizona	507
Georgia	502

The states with the lowest prison incarceration rates at the end of 1998 were:

Minnesota	117
Maine	125
North Dakota	128
New Hampshire	182
Vermont	188
West Virginia	192
Utah	205
Nebraska	215

By gender, the incarceration rates were 885 for males and 57 for females. Between 1990 and 1998 the average annual increase in the number of men was 6.6 percent compared to 8.5 percent for women. The states with the highest female incarceration rates were:

Dist of Columbia	173
Oklahoma	122
Texas	102
Louisiana	94
Nevada	85

The states with the lowest female incarceration rates were:

Maine	9
Vermont	9
Minnesota	12
Massachusetts	13
North Dakota	19

International Incarceration Rates

According to an international compilation of national incarceration rates, about 132 people out of every 100,000 worldwide were being held behind bars during the 1994 to 1998 period when these data were compiled.

By continent, there are large variations in incarceration rates:

Africa	115
Americas	302
Asia	77
Europe	237

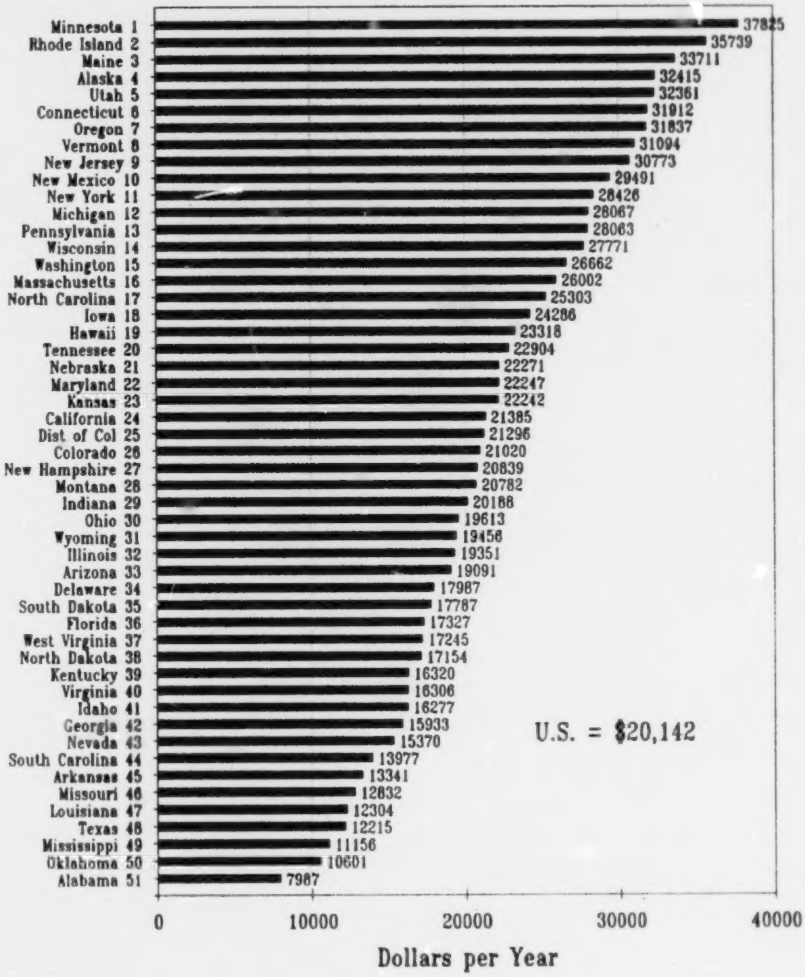
The chart on this page ranks the 50 countries with the largest populations according to their incarceration rates (per 100,000 population). In this ranking, the United States ranks second, with 645 or nearly five times the world average. (By the end of 1998 the U.S. incarceration rate had risen to 672 per 100,000.) Russia outranked the U.S. during this period with an incarceration rate of 685 per 100,000. However, a recent prison-release program in Russia may have lowered the Russian rate below that of the U.S.

State Prison Expenditures

Despite what campaigning politicians may wish voters to believe, locking up adults costs real money. A recent study by the Bureau of Justice Statistics found that a year in a state prison cost $20,142 per inmate in FY1996. This was just operational cost. In FY1996 the capital costs added $1258, for a total of $21,400 per inmate.

(By comparison, states spent an

Annual Operating Expenditures per Inmate by State FY1996



average of $7075 per K-12 student, and $8858 per higher education student in public institutions in FY1996. About a third of the higher education expenditure was provided by the student through tuition charges.)

Of the total $21,400 spent per inmate in state prisons in FY1996, 49 percent went for salaries and wages, 14 percent for employee benefits, 4 percent for construction, 1 percent for equipment, 1 percent for land, and 31 percent for other operational expenditures.

Across the states operational expenditures per inmate ranged from $37,825 in **Minnesota** to $7987 in **Alabama**. These differences appear to reflect differences in costs of living, prevailing wage rates and other uncontrollable factors. But a significant portion of the variation is also accounted for by inmate-to-staff ratios and economies of scale where large prisons were operated.

If countries were judged not by their military might nor their Gross Domestic Product, and judged instead by their practice of justice and compassion and foresight, then the United States would get an F for its incarceration record. Prisons represent social failures.

Our prisons are populated overwhelmingly with males (93.5 percent), who are primarily non-white minorities (52.1 percent), with little formal education (41.2 percent high school dropouts). Two-thirds are in state prisons for robbery, property offenses, drug offenses or public disorder offenses.

As our country becomes ever-more minority, as incomes grow steadily more unequally distributed, as we continue to retreat from our commitments to equalizing higher educational opportunities that provide constructive paths to responsible adult life engagement, we will almost certainly continue to lock-up a growing share of the population. And it will be overwhelmingly male and a growing share will be minority.

In the U.S. we often seem to be focused on treating symptoms of social problems rather than their causes. Incarceration is one example. Our approach cannot ever correct the problem. Our symptomatic responses--tougher laws, longer sentences, diversion of social resources from productive investment to damage control--cannot win in the end. The problem does not just remain, it gets worse. We cannot avoid it.

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The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 90 www.postsecondary.org **December 1999**

State Tax Fund Appropriations for Higher Education, FY2000

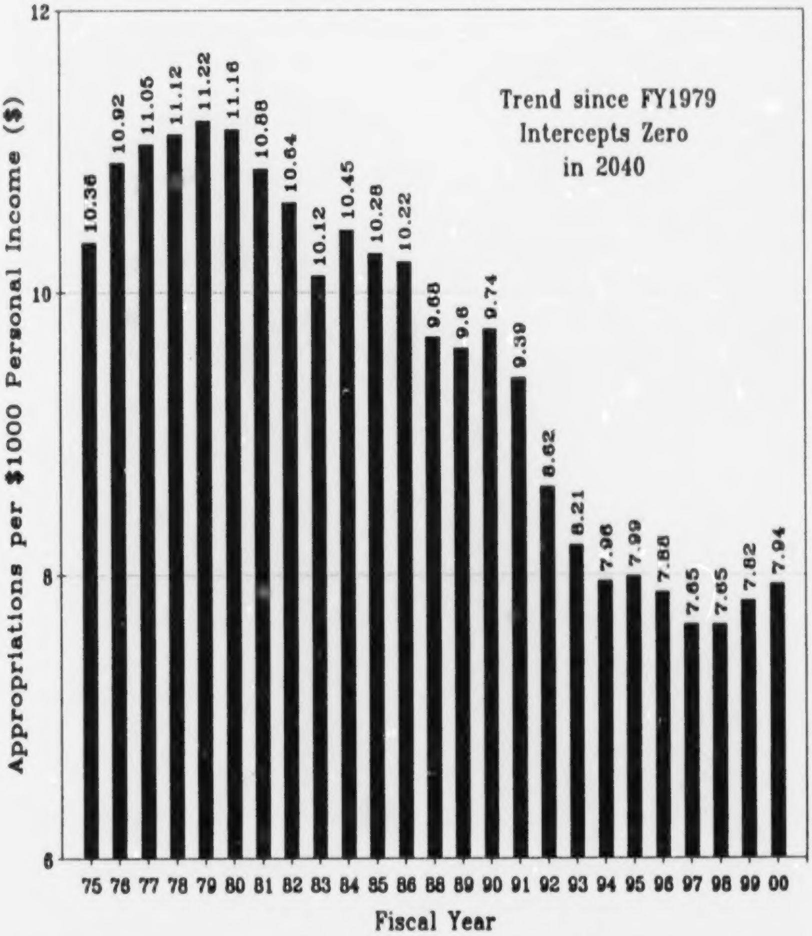
States just don't get it!

Investment for income or profit requires putting out money. Those who invest in profitable ventures can expect to receive increased income or a profit in return for their initial cash outlay. Those who do not invest will not receive investment returns. This first principle of investment applies to individuals, families, cities, states and the nation.

Higher education is a most profitable investment. The monetary returns are substantial.

- A male with a bachelor's degree can expect to earn about $925,000 more than can a high school graduate on average. Compared to about $29,000 in institutional charges over four years at a public college or university, the return is about $31.60 in increased lifetime income for each dollar spent.
- For a female, the increased lifetime income is about $555,000. For each dollar spent on institutional charges at a public institution, the return is about $18.90 for each dollar spent.
- Families headed by a person with a bachelor's degree now average nearly $1,400,000 more in income over 40 years than do families headed by high school graduates. The relationship between educational attainment and family income has grown steadily since 1973.
- Metropolitan areas with a larger share of college educated adults have higher per capita personal income than do cities with a smaller share of college educated adults. Each one percent gain in the proportion of those 25 and over with a bachelor's degree increases per capita personal income by $534 in 1998 dollars. Expressed another way, each one percent gain in the proportion of adults with a bachelor's degree increases per

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1975 to FY2000



capita personal income by 1.7 percentage points.

- States that have higher proportions of college educated adults also have higher per capita personal incomes. In 1998 each one percent gain in the proportion of a state's population age 25 and over with a bachelor's degree added $693 to state per capita personal income. Expressed another way, each one percent increase in the proportion of college educated adults added 2.67 percent to state per capita personal income. Over the last decade this relationship has steadily strengthened.
- At the national level in 1994, households headed by persons with a bachelor's degree or more constituted 24.4 percent of all households, earned 39.8 percent of household income and paid 47.7 percent of federal income taxes. The proportion of households headed by persons with any college was 49.1 percent in 1994. These households earned 64.5 percent of all household income and paid 70.9 percent of federal income taxes. Between 1970 and 1994, the proportion of federal income taxes paid by households headed by persons with any college increased from 41.6 to 70.9 percent. The proportion of federal income taxes paid by households headed by persons with at least a bachelor's degree from college increased from 26.7 to 47.7 percent during this same period.

But monetary returns represent only a portion of the total return on a higher education investment. Some analysts estimate that the total returns to a higher education investment are at least twice the more easily measured monetary returns. We have tabulated more than 100 private correlates of educational attainment. This tabulation is available from our website at:

http://www.postsecondary.org

under the *Spreadsheets* icon. By nearly every measure, college educated adults live healthier, happier, more engaged lives than do people without college education. These individual measures of private welfare aggregate--like income--to families, cities, states and the nation.

To gain the rich returns from investments in higher education, *opportunity for higher education* must be made available to and be used by citizens. It is through the availability of higher educational opportunity to individuals that the investments in higher education are made, and through whom the benefits to individuals, families, cities, state and the nation accrue.

Higher educational opportunity costs money. *Capacity* costs money. *Quality* costs money. *Affordability* costs money. When money needed to provide educational opportunity for higher education is short, one or more of these dimensions gets cut.

Available evidence suggests that opportunity for public higher education has lost on all three fronts:

- *Capacity* for public higher education has been curtailed as both public and private 4-year colleges and universities have grown steadily more selective over the last 15 years. (See OPPORTUNITY #89 and #78.)
- *Quality* of public higher education may have suffered over the last two decades. The growing compensation differential between private and public higher education makes attracting the best faculty substantially more difficult for public institutions. (See OPPORTUNITY #59.)
- *Affordability* has deteriorated for those from low and lower-middle income families. (See OPPORTUNITY #89, #88, #84, #78 and many prior issues.)

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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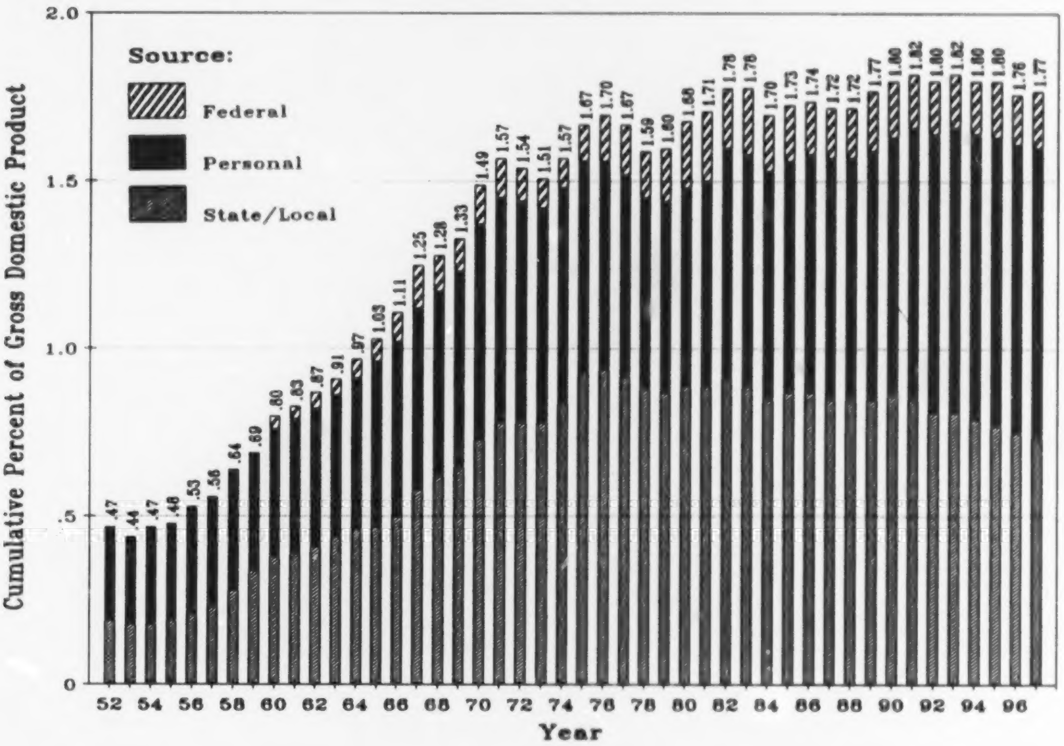
Higher Education's Share of Gross Domestic Product
1952 to 1997



In the system of shared responsibility for financing higher education that has always been practiced in the United States, states have traditionally borne the largest share of the load. However, since about 1980 states have been sharply reducing their investment in higher education. States have chosen instead to divert resources previously committed to higher education to the growing state budget priorities of prisons and Medicaid.

Several consequences result directly from the decline in state investment in higher education.

- Public institutions increase institutional charges to students to offset (most of) the loss in state financial support. The state walks away from assisting the students from low income families whose college prospects are diminished without financial aid.
- Higher education's share of Gross Domestic Product has been shrinking during the 1990s. We are investing less in higher education in the late 1990s than we did earlier in the decade.

At a time when it has become obvious to anyone who studies social and economic conditions that postsecondary education and training is where we are building our future, states have retreated from their historic roles of investing in higher education.

States just don't get it!

The Data and Analysis

Grapevine data. The main source of data used in this analysis is the Grapevine data on state tax fund appropriations for higher education. These data have been collected each year since 1960 by the Center for Higher Education and Educational Finance at Illinois State University. These data are available on the Grapevine website at:

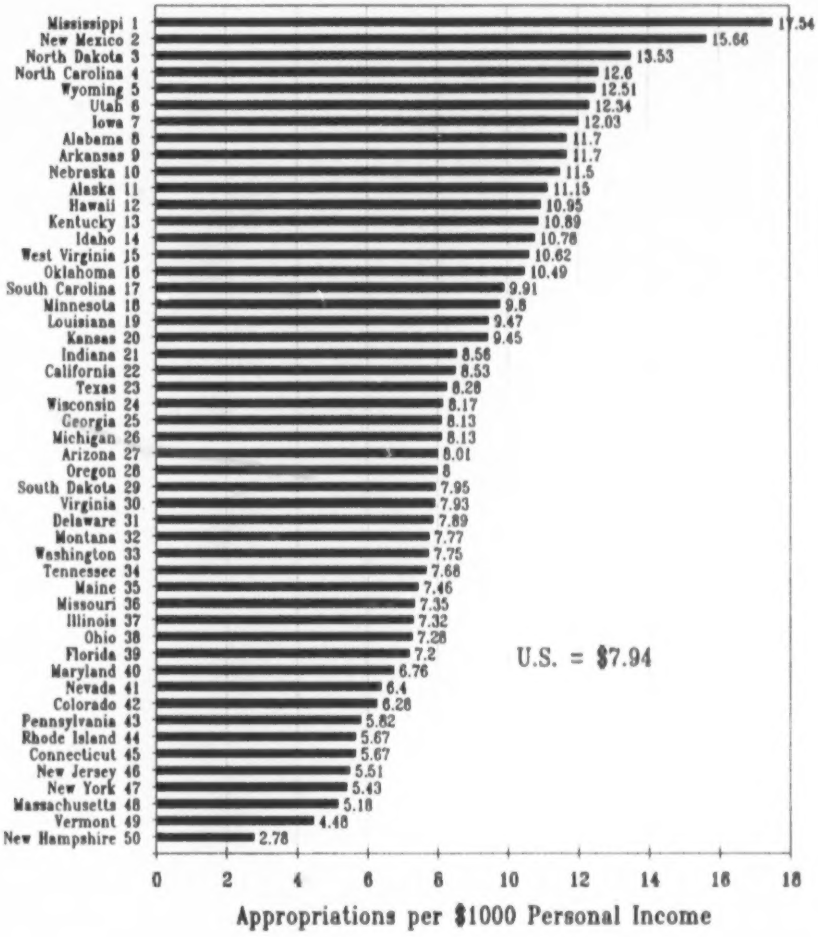
http://coe.ilstu.edu/grapevine

They are also published in *The Chronicle of Higher Education.*

The definitions for these data are:

- Appropriations, not actual expenditures
- For annual operating expenses
- Includes state aid to local public community colleges and vocational-technical colleges or institutes that are operated primarily for high school graduates
- Includes appropriations for statewide coordinating or governing boards
- Includes appropriations for state student financial aid programs
- Includes appropriations destined

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY2000



higher education but made to other state agencies, such as those administering faculty fringe benefits

- Includes appropriations directed to private colleges and universities
- Excludes appropriations for capital outlays and debt service
- Excludes appropriations of funds from federal sources, students fees, auxiliary enterprises and other non-tax sources

Significantly, these state tax fund appropriations exclude local property tax contributions for community college operations. This is important in about 25 state that have this public revenue resource for higher education. This omission, plus the absence of private support for non-public higher education, diminishes considerably the value of comparisons between states of state support for higher education. These omissions, however, do not affect the time-series comparisons of state support that are the core of the analyses show in the charts for each state.

Personal income. Data on personal income by state are compiled and reported by the Bureau of Economic Analysis (BEA) in the *Survey of Current Business* and in other BEA publications. In our analysis, FY2000 state tax fund appropriations are divided by CY1998 personal income by state to derive state tax fund appropriations per $1000 of personal income. The most recent BEA estimates of state personal income appear in the August 1999 issue of the *Survey of Current Business.*

National Income and Product Accounts. The chart on page 3 is based on data compiled and reported by BEA in the *Survey of Current Business* and in other BEA publications. The National Income and Product Accounts provide a useful way of compiling all revenue sources for higher education (both public and private) and expressing this as a proportion of national economic activity.

A comment on data volatility. The Grapevine data used in this analysis has a reputation for stability. Once reported, it was fixed. Subsequent state budget rescissions--such as those frequently employed by states in the economic recession of the early 1990s--were not reflected in the reported state appropriations data. More recently, however, state reports in Grapevine have differed from those initially reported.

The state personal income data reported by BEA is highly unstable--it is revised and updated frequently and for many years after it is first reported. This volatility is reflected throughout the NIPA accounting system, with revisions made to economic data from decades earlier.

Data volatility is addressed here in the same way that Grapevine data were reported for many years: the first report is the final report for our purposes here. This is not yet a serious issue with state appropriations data from Grapevine. But data volatility is and always has been a serious issue with BEA's state personal income data and the entire NIPA system of national accounting. Our reports on state tax fund appropriations for higher education per $1000 of state personal income are calculated each year on the most recent data available. Once calculated they are fixed for all subsequent reports and updates.

State Appropriations for Higher Education

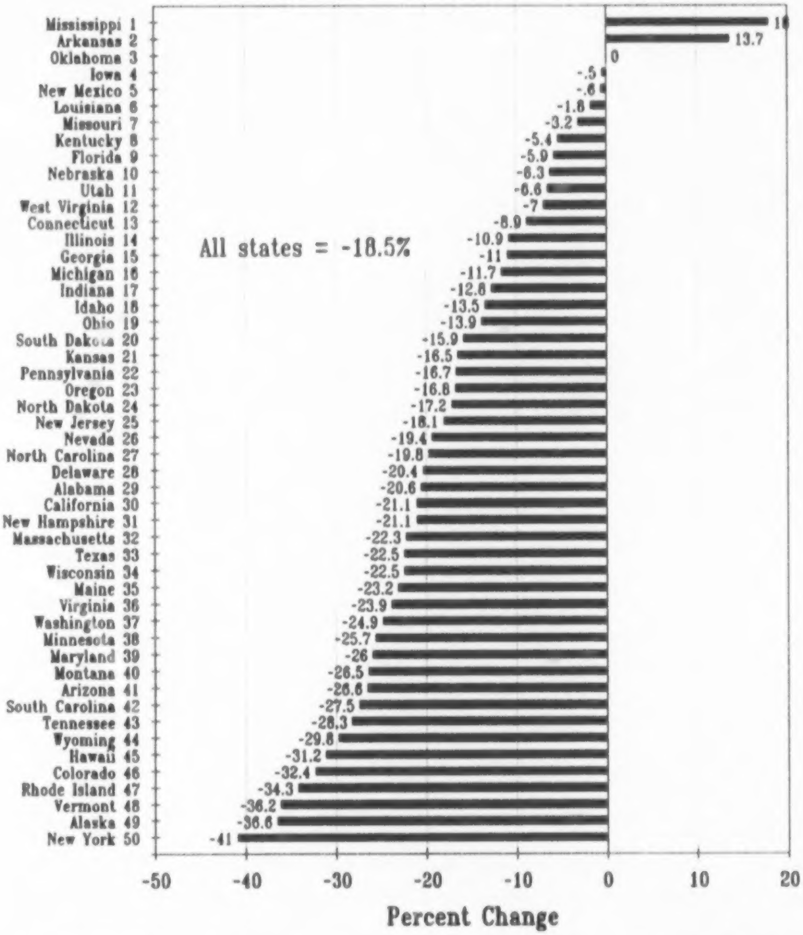
For FY2000 states appropriated $56.7 billion from state tax sources for the operations of higher education in their states. For FY1999 states had appropriated $52.8 billion, $49.5 billion for FY1998, and $46.6 billion for FY1997.

The FY2000 total appropriation was 7.3 percent over the FY1999 total. Compared to a CPI increase from 1997 to 1998 of 1.6 percent, this is a real increase. Even compared to a 1.4 percent increase in the high school graduate population, or a 0.6 percent decline in new college freshmen between 1997 and 1998 this looks good.

However, between 1997 and 1998, personal income in the United States increased by 5.7 percent. Against this measure--which we take to be the tax base for state investment in higher education--the 7.3 percent increase still looks good, but not outstanding.

Measured over time and controlling for state personal income, the FY2000 state appropriations do not look good at all. The FY2000 state appropriation of $7.94 per $1000 of personal income is 4 percent above the FY1997 and FY1998 level, but is 32 percent below the peak level of state funding effort reached in FY1979.

Change in Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1990 to FY2000



As the chart on page 1 of this issue of **OPPORTUNITY** illustrates, between FY1979 and FY1997 state tax fund appropriations for higher education declined from $11.22 per $1000 of personal income to $7.65. This is the 32 percent decline.

The decline in state investment effort in higher education has direct dollar measurement. If states had made the same effort investing in higher education in FY2000 that they had made in FY1979, they would have appropriated $80.1 billion. The actual appropriation of $56.7 billion falls $23.4 billion short of the FY1979 effort.

Both the 1980s and the 1990s were very difficult for public higher education. Again using the current FY1979 state appropriation total for comparison, by FY1990 states had reduced their funding efforts by $12.8 billion. Then between FY1990 and FY2000, they took out another $10.6 billion.

Expressed another way, the FY2000 state investment in higher education is 70.8 percent of the FY1979

State Appropriations for Higher Education per $1000 of Personal Income in FY2000 with Comparisons to FY1990 and FY1979 State Appropriation Support Levels

State	FY2000 Approps (000)	CY1998 Personal Income (000,000)	FY2000 Approps per $1000 Pers Incm	FY1990 Approps per $1000 Pers Incm	FY2000 Approps at FY90 (000)	Difference (000)	FY1979 Approps per $1000 Pers Incm	FY2000 Approps at FY79 (000)	Difference (000)
Alabama	$1,094,839	$93,567	$11.70	$14.73	$1,378,242	$-283,403	$18.04	$1,687,949	$-593,110
Alaska	$176,494	$15,823	$11.15	$17.59	$278,327	$-101,833	$16.64	$263,295	$-86,801
Arizona	$865,828	$108,087	$8.01	$10.91	$1,179,229	$-313,401	$14.60	$1,578,070	$-712,242
Arkansas	$605,439	$51,763	$11.70	$10.29	$532,641	$72,798	$11.81	$611,321	$-5,882
California	$7,683,934	$900,900	$8.53	$10.81	$9,738,729	$-2,054,795	$13.47	$12,135,123	$-4,451,189
Colorado	$719,221	$114,449	$6.28	$9.29	$1,063,231	$-344,010	$12.66	$1,448,924	$-729,703
Connecticut	$699,290	$123,431	$5.67	$6.22	$767,741	$-68,451	$8.26	$1,019,540	$-320,250
Delaware	$175,621	$22,258	$7.89	$9.91	$220,577	$-44,956	$10.91	$242,835	$-67,214
Florida	$2,785,631	$386,654	$7.20	$7.66	$2,961,770	$-176,139	$9.48	$3,665,480	$-879,849
Georgia	$1,560,155	$191,865	$8.13	$9.14	$1,753,646	$-193,491	$11.42	$2,191,098	$-630,943
Hawaii	$342,247	$31,268	$10.95	$15.90	$497,161	$-154,914	$16.80	$525,302	$-183,055
Idaho	$279,290	$25,901	$10.78	$12.46	$322,726	$-43,436	$16.34	$423,222	$-143,932
Illinois	$2,554,402	$349,029	$7.32	$8.21	$2,865,528	$-311,126	$9.34	$3,259,931	$-705,529
Indiana	$1,227,076	$143,362	$8.56	$9.82	$1,407,815	$-180,739	$10.42	$1,493,832	$-266,756
Iowa	$826,589	$68,720	$12.03	$12.09	$830,825	$-4,236	$13.77	$946,274	$-119,685
Kansas	$622,198	$65,854	$9.45	$11.31	$744,809	$-122,611	$13.39	$881,785	$-259,587
Kentucky	$924,048	$84,834	$10.89	$11.51	$976,439	$-52,391	$13.27	$1,125,747	$-201,699
Louisiana	$885,055	$93,430	$9.47	$9.65	$901,599	$-16,544	$12.03	$1,123,963	$-238,908
Maine	$213,454	$28,620	$7.46	$9.71	$277,900	$-64,446	$7.87	$225,239	$-11,785
Maryland	$1,042,682	$154,164	$6.76	$9.14	$1,409,059	$-366,377	$9.34	$1,439,892	$-397,210
Massachusetts	$1,046,850	$202,252	$5.18	$6.66	$1,346,998	$-300,148	$6.51	$1,316,661	$-269,811
Michigan	$2,073,579	$255,039	$8.13	$9.21	$2,348,909	$-275,330	$10.55	$2,690,661	$-617,082
Minnesota	$1,280,627	$130,737	$9.80	$13.19	$1,724,421	$-443,794	$13.88	$1,814,630	$-534,003
Mississippi	$917,087	$52,283	$17.54	$14.87	$777,448	$139,639	$18.22	$952,596	$-35,509
Missouri	$977,626	$132,955	$7.35	$7.60	$1,010,458	$-32,832	$8.92	$1,185,959	$-208,333
Montana	$138,477	$17,827	$7.77	$10.57	$188,431	$-49,954	$11.81	$210,537	$-72,060
Nebraska	$473,939	$41,212	$11.50	$12.27	$505,671	$-31,732	$13.40	$552,241	$-78,302
Nevada	$305,983	$47,795	$6.40	$7.94	$379,492	$-73,509	$9.91	$473,648	$-167,665
New Hampshire	$96,428	$34,626	$2.78	$3.53	$122,230	$-25,802	$4.97	$172,091	$-75,663
New Jersey	$1,519,546	$275,531	$5.51	$6.73	$1,854,324	$-334,778	$6.33	$1,744,111	$-224,565
New Mexico	$544,090	$34,753	$15.66	$15.75	$547,360	$-3,270	$16.42	$570,644	$-26,554
New York	$3,126,582	$575,768	$5.43	$9.21	$5,302,823	$-2,176,241	$10.52	$6,057,079	$-2,930,497
North Carolina	$2,293,097	$182,036	$12.60	$15.71	$2,859,786	$-566,689	$15.91	$2,896,193	$-603,096
North Dakota	$187,459	$13,855	$13.53	$16.34	$226,391	$-38,932	$15.14	$209,765	$-22,306
Ohio	$2,060,555	$282,920	$7.28	$8.46	$2,393,503	$-332,948	$7.98	$2,257,702	$-197,147
Oklahoma	$739,520	$70,469	$10.49	$10.49	$739,220	$300	$11.02	$776,568	$-37,048
Oregon	$650,142	$81,310	$8.00	$9.61	$781,389	$-131,247	$13.25	$1,077,358	$-427,216
Pennsylvania	$1,879,605	$322,706	$5.82	$6.99	$2,255,715	$-376,110	$8.46	$2,730,093	$-850,488
Rhode Island	$150,790	$26,614	$5.67	$8.62	$229,413	$-78,623	$10.48	$278,915	$-128,125
South Carolina	$812,709	$82,039	$9.91	$13.66	$1,120,653	$-307,944	$16.36	$1,342,158	$-529,449
South Dakota	$130,345	$16,388	$7.95	$9.46	$155,030	$-24,685	$11.09	$181,743	$-51,398
Tennessee	$984,860	$128,244	$7.68	$10.71	$1,373,493	$-388,633	$11.28	$1,446,592	$-461,732
Texas	$4,093,434	$494,544	$8.28	$10.68	$5,281,730	$-1,188,296	$11.94	$5,904,855	$-1,811,421
Utah	$546,774	$44,297	$12.34	$13.21	$585,163	$-38,389	$17.58	$778,741	$-231,967
Vermont	$64,167	$14,309	$4.48	$7.03	$100,592	$-36,425	$9.41	$134,648	$-70,481
Virginia	$1,480,258	$186,686	$7.93	$10.42	$1,945,268	$-465,010	$12.08	$2,255,167	$-774,909
Washington	$1,238,035	$159,674	$7.75	$10.32	$1,647,836	$-409,801	$13.81	$2,205,098	$-967,063
West Virginia	$372,505	$35,087	$10.62	$11.42	$400,694	$-28,189	$13.31	$467,008	$-94,503
Wisconsin	$1,075,238	$131,547	$8.17	$10.55	$1,387,821	$-312,583	$13.53	$1,779,831	$-704,593
Wyoming	$139,711	$11,169	$12.51	$17.81	$198,920	$-59,209	$15.31	$170,997	$-31,286
Total	$56,683,511	$7,138,651	$7.94	$9.74	$69,530,461	$-12,846,950	$11.22	$80,095,664	$-23,412,153

investment effort.

The States

Across the 50 states, there is very wide variation in state efforts to invest in higher education. State tax fund appropriations for higher education ranged from $2.78 per $1000 of state personal income in New Hampshire to $17.54 in Mississippi. As shown in the chart on page 4, the states with the lowest state investment record tend to be New England or Mid Atlantic states, with substantial private college sectors. But New Hampshire always seems to test the question: Just how *low* can you go?

At the high end of state investment efforts are most of the poorest states in the U.S. Also these are often states with small private college sectors, so the higher education system is essentially one built and operated by the state.

Between FY1979 and FY2000, every state reduced its higher education investment efforts. Across all states, the FY2000 effort was 70.8 percent of the FY1979 peak effort. But, of course, some states have done far better than others over the last two decades. At one end of the scale, **Arkansas'** FY2000 higher education investment effort was 99 percent of its FY1979 effort. Other states where the FY2000 effort was at least 95 percent of the FY1979 effort are **Mississippi, New Mexico and Oklahoma.**

But at the other end of the scale, two states have reduced their state investment in higher education by more than half. The worst record is **Vermont,** whose record was already modest in 1979, but whose FY2000 effort was just 47.7 percent of FY1979. The second worst state was **Colorado,** whose FY2000 state higher education investment record is 49.6 percent of its FY1979 effort. Other states whose FY2000 state effort was less than 60 percent of their FY1979 efforts were **New York, Rhode Island, Arizona, New Hampshire and Washington.**

The charts on the following pages show the state tax efforts to invest in higher education of each state from FY1975 through FY2000. Nine states managed to appropriate a smaller share of their personal incomes for higher education than they had ever invested before. These are the worst of the states that just don't get it. These eight states are: **Alaska, Arizona, Colorado, Michigan, New Hampshire, Tennessee, Wisconsin and Wyoming.** Seven other states had their second worst higher education investment effort in FY2000: **Georgia, Hawaii, Kansas, Minnesota, New York, South Carolina and Washington.** Other states were also flirting with their all-time low efforts.

Commentary

These data reflect the budget priorities of state governors and legislators over the last two decades. In all states, elected leadership has diminished higher education's priority in state budgets. Because this analysis of state tax fund appropriations controls for the resources available to invest in higher education, lame excuses like "the dog ate my homework" don't withstand critical examination. The money was there--state leaders chose to spend it elsewhere.

The choice to reduce state tax support for higher education has inevitably been followed by increased institutional charges to students to offset the loss of state support. Very few states assumed any financial responsibility for covering the increased costs passed on to students. Thus, the clumsy state budget processes have been the major factor in the reallocation of higher educational opportunity for students from different family income backgrounds. At a time when just about everyone understands the importance of higher education to private and social welfare, state budget policies appear to be oblivious.

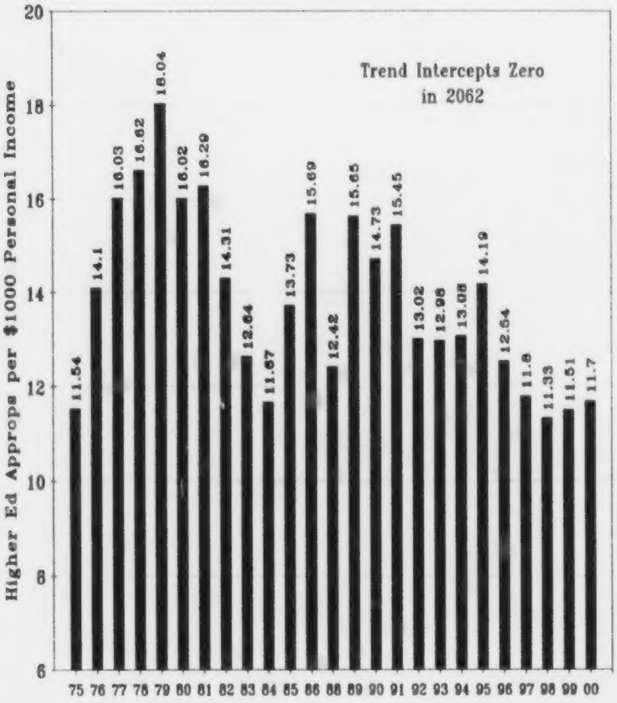
States could have mitigated the consequences of their reductions in higher education investment if the reduction had been accompanied by a refocusing of state funds on those who need them most. Current resource allocations are grossly inefficient if states were concerned about maximizing educational opportunity and social welfare. However, institutional appropriations provide large sums of state money to students from affluent families who do not need state assistance to enroll in college. Institutional allocations keep tuitions low for all students, regardless of their need for low tuition to attend college. Those who need state financial assistance are thus denied, while those who don't are lavished with assistance they do not need.

This resource misallocation problem is currently being made worse by new state financial aid initiatives. Merit scholarships skew financial aid toward the non-needy because traditional merit measures are highly correlated with family income. In one case--Georgia's HOPE Scholarship program--students from low income families are deliberately excluded from program eligibility. College savings programs and pre-paid tuition programs, with their favorable tax treatment, serve those families with discretionary income to set a side for future higher education bills. Other state initiatives, such as tuition rollbacks, state tax credits, other forms of non-need-based student aid, elimination of remedial education in postsecondary institutions, and other policy and budgetary changes tend to serve those already best served, and bypass those in greatest need of state assistance.

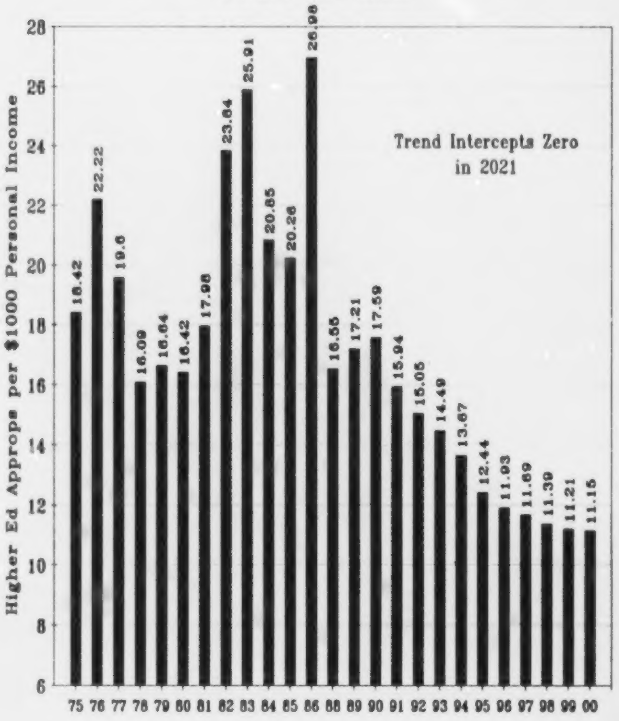
If this assessment of state investment in higher education were not bleak enough, Dr. Hal Hovey's recent assessment of state fiscal trends makes the future look worse. Hovey observes that most states face serious structural deficits caused by antiquated tax systems that will curtail state resources relative to spending patterns. The first challenge will be to maintain current state services.

But higher education faces additional challenges of demographically and economically driven enrollment growth. Given states' records over the last two decades shown on the following pages, higher education's funding future is almost certainly bleaker than it is brighter.

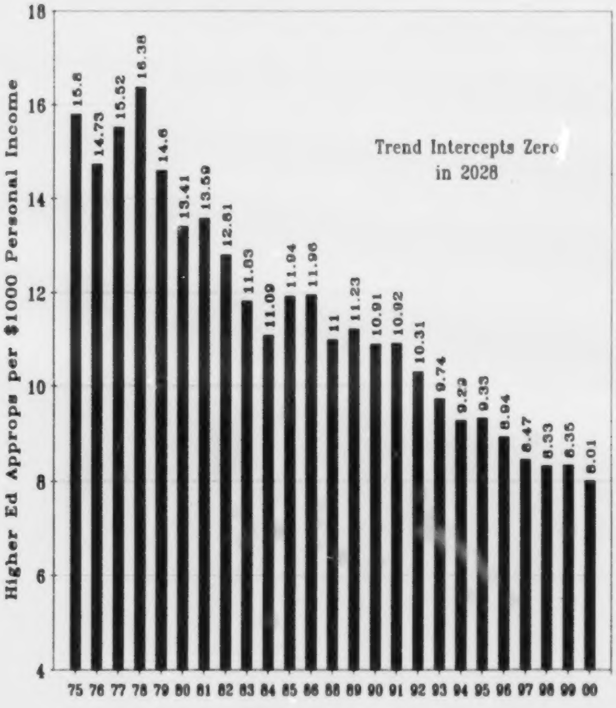
Alabama Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Alaska Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Arizona Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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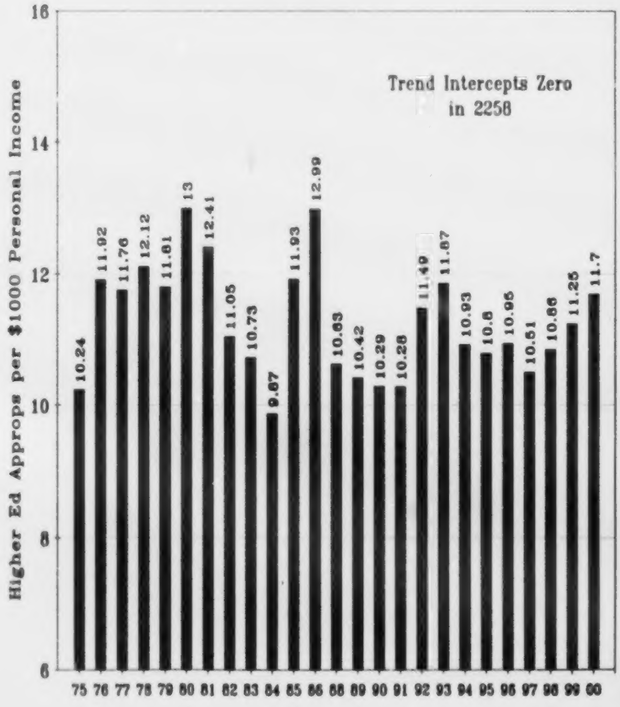
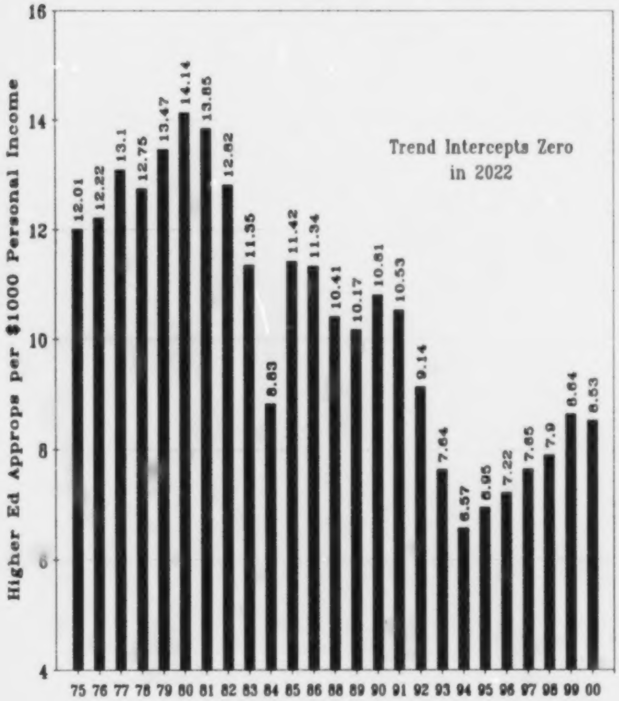
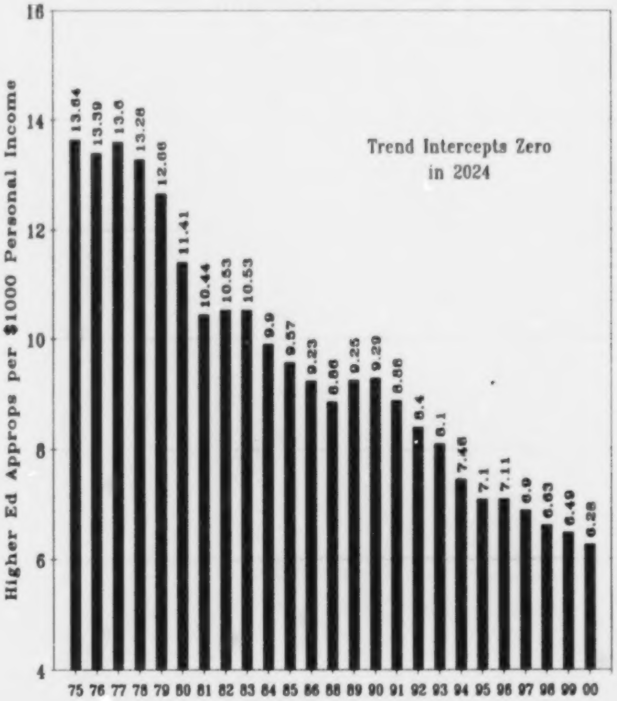


California Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Colorado Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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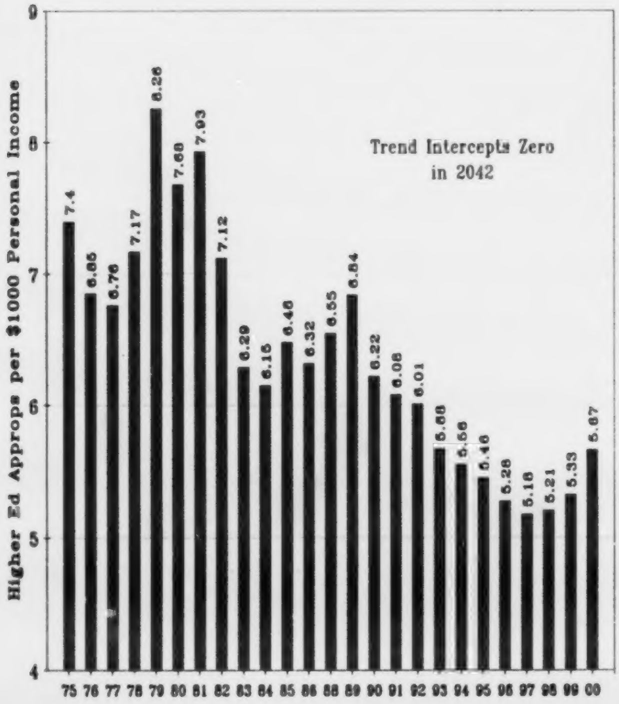

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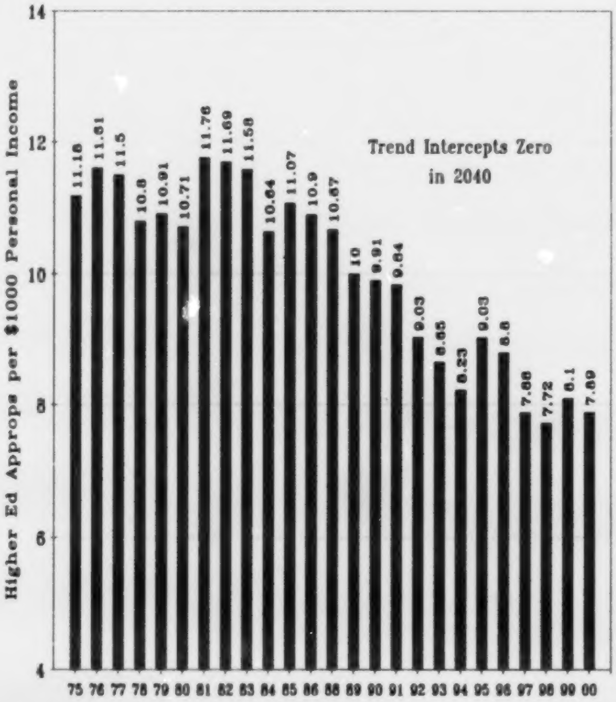
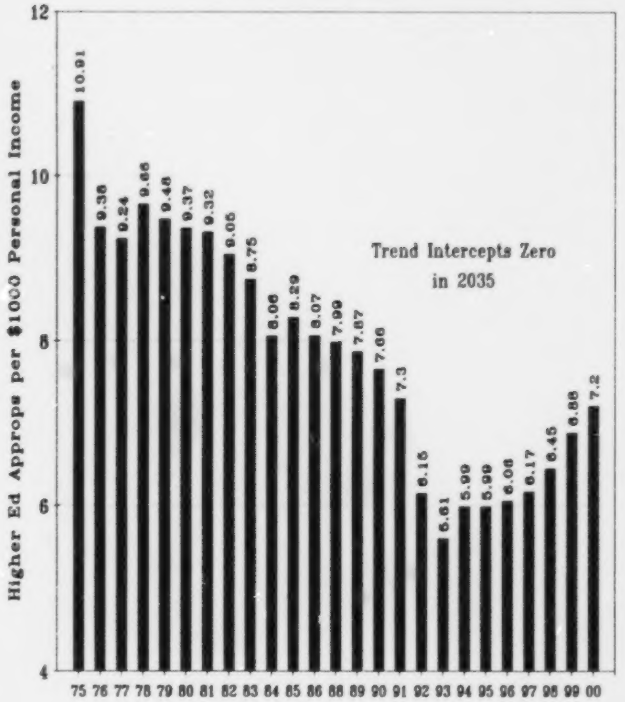


Florida Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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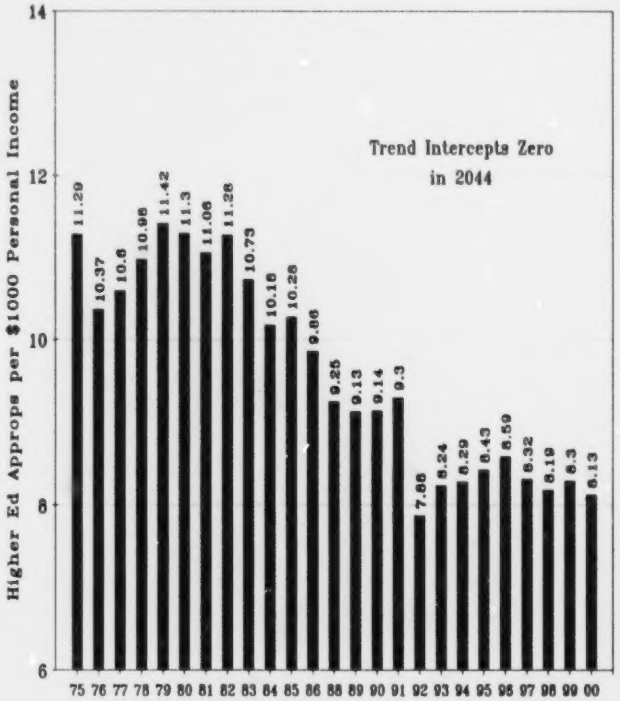

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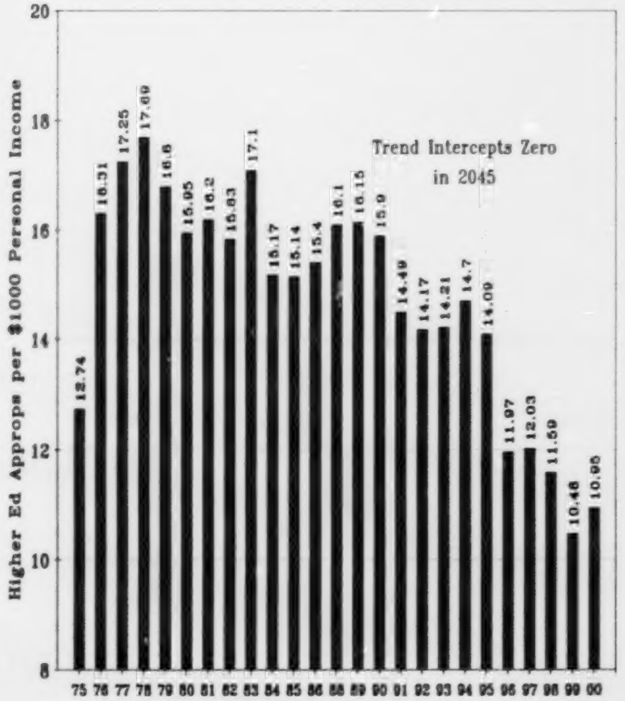
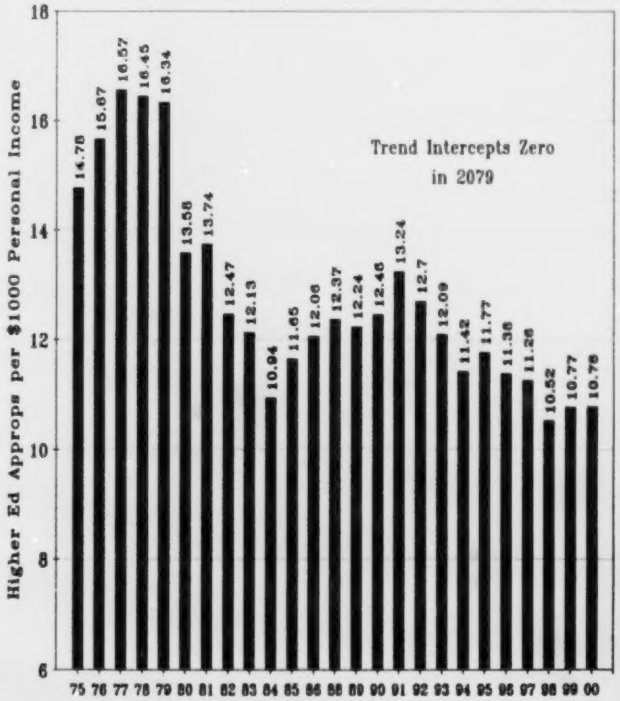


Idaho Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Illinois Appropriations of State Tax Funds for
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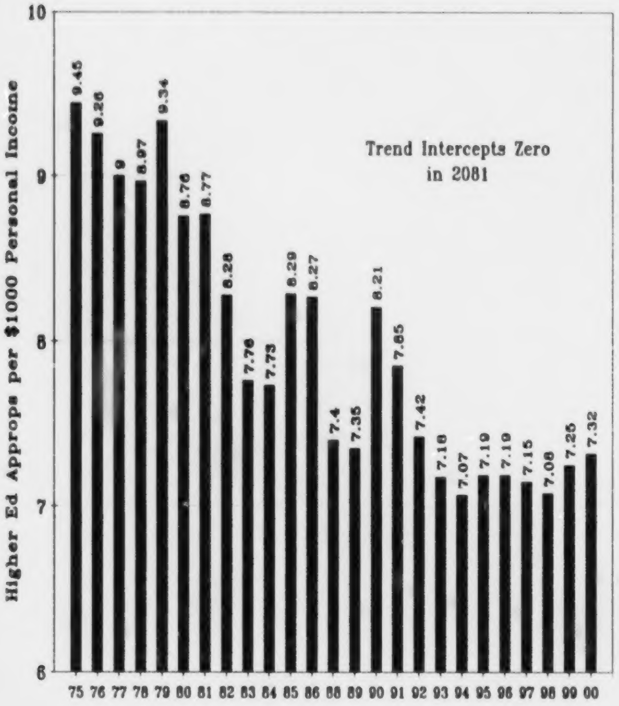
FY1975 to FY2000



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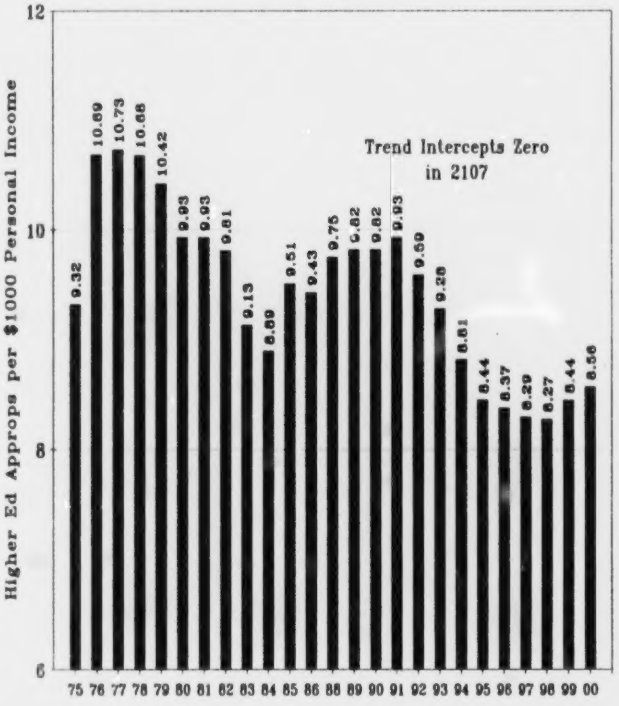
FY1975 to FY2000



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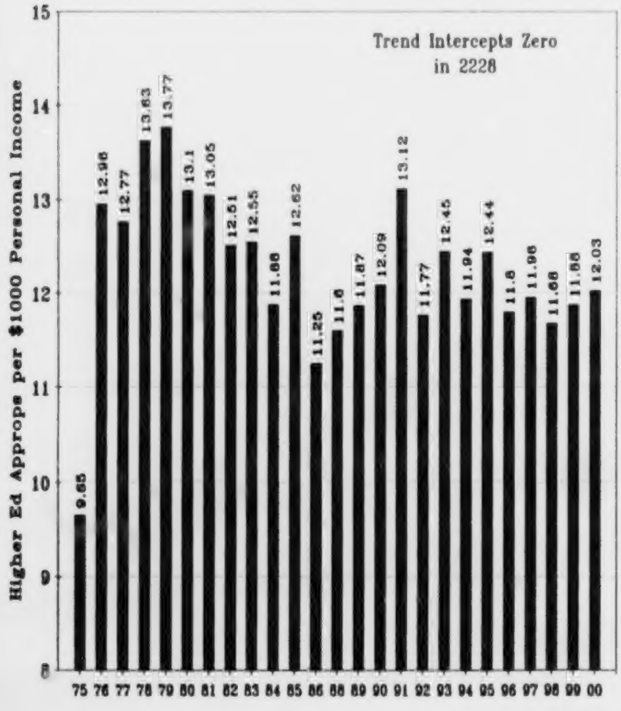
FY1975 to FY2000



Kansas Appropriations of State Tax Funds for
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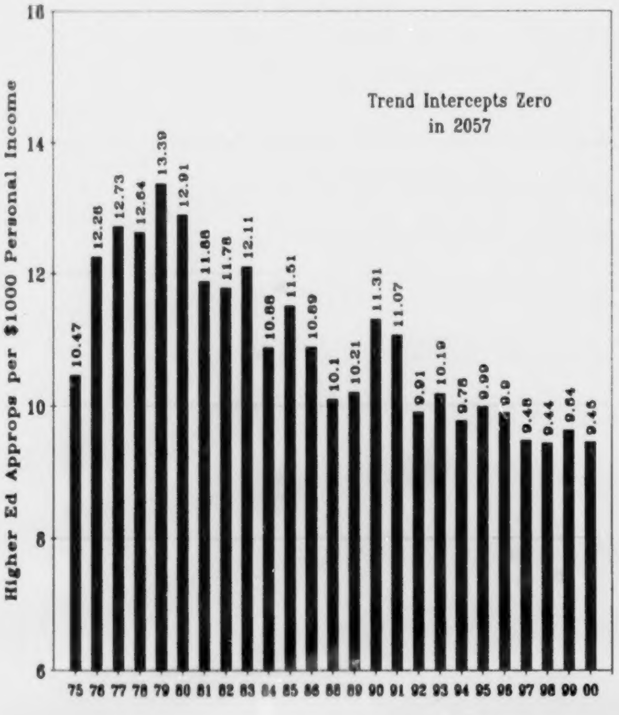
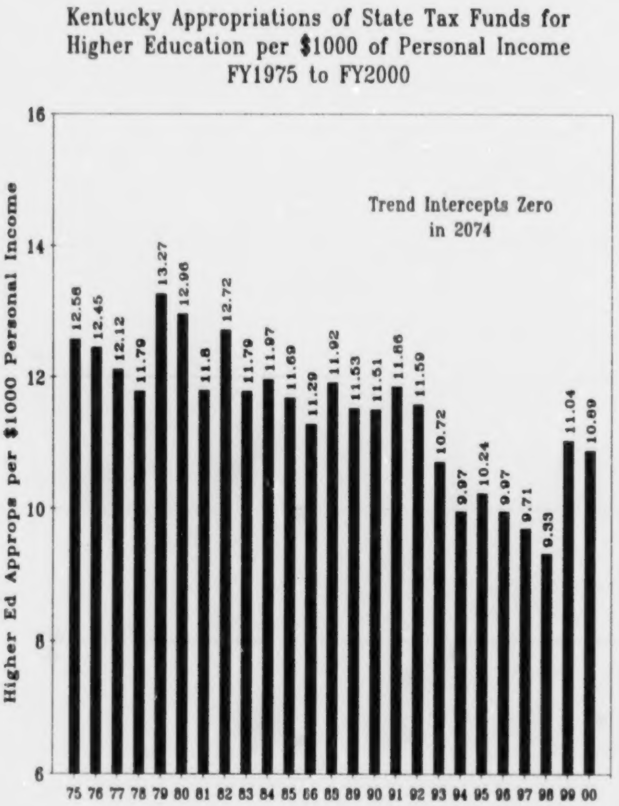
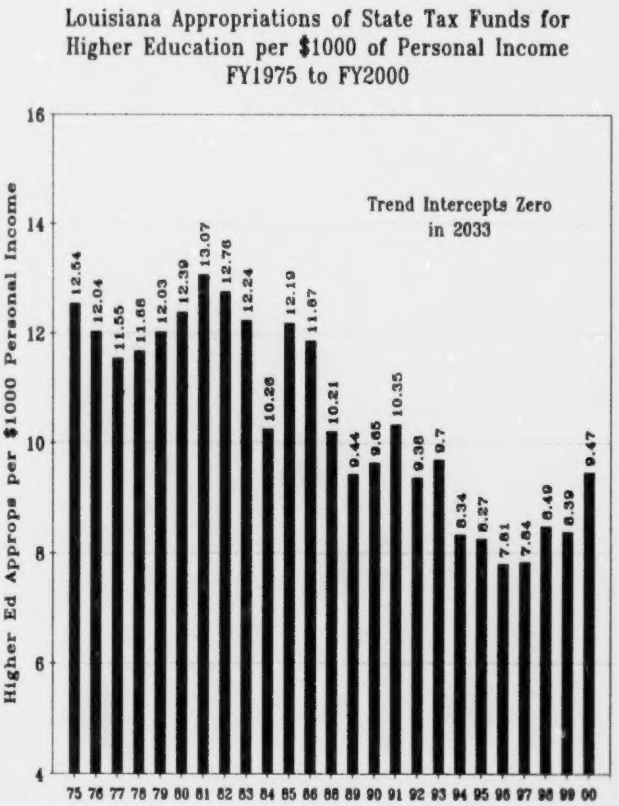
FY1975 to FY2000





Kentucky Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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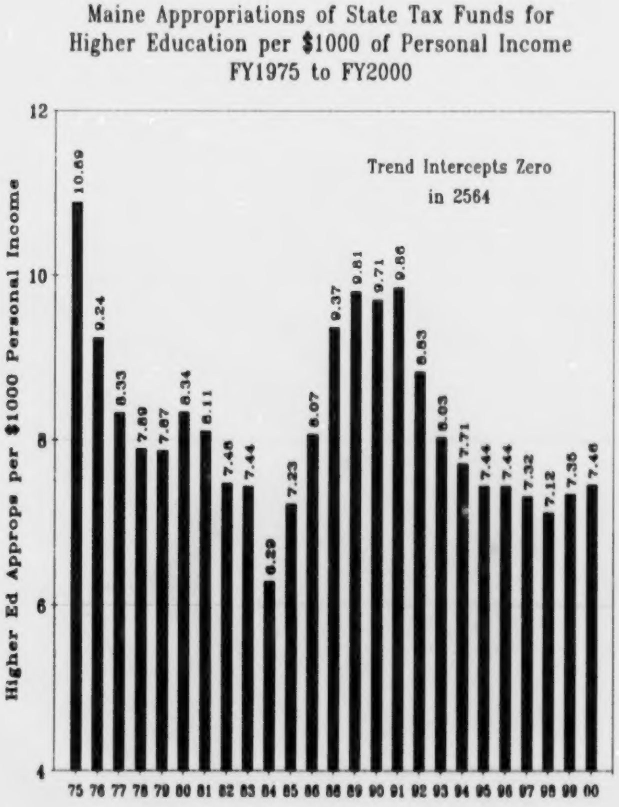
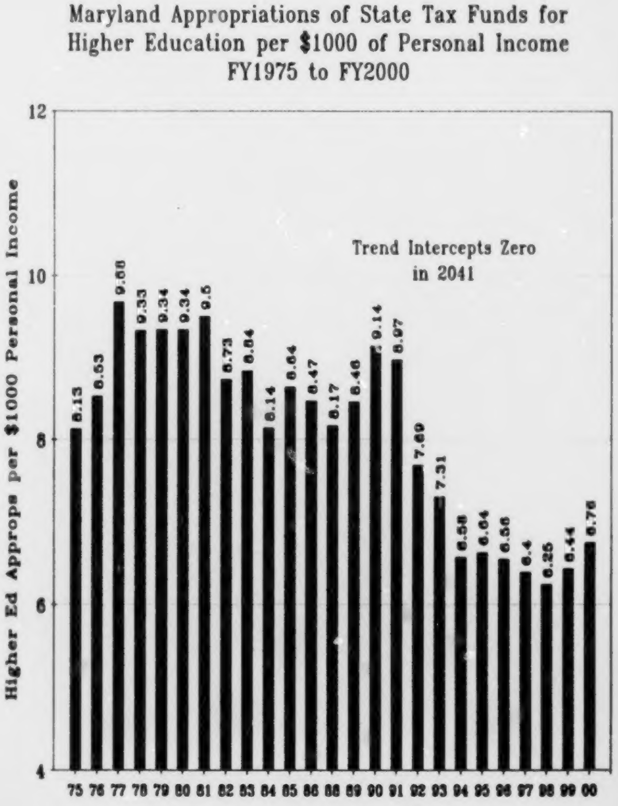
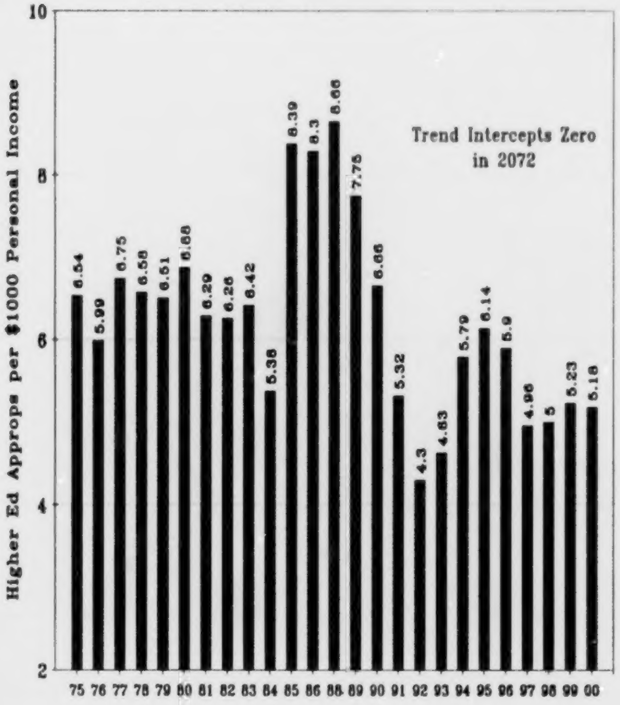


Maine Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Maryland Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000

Massachusetts Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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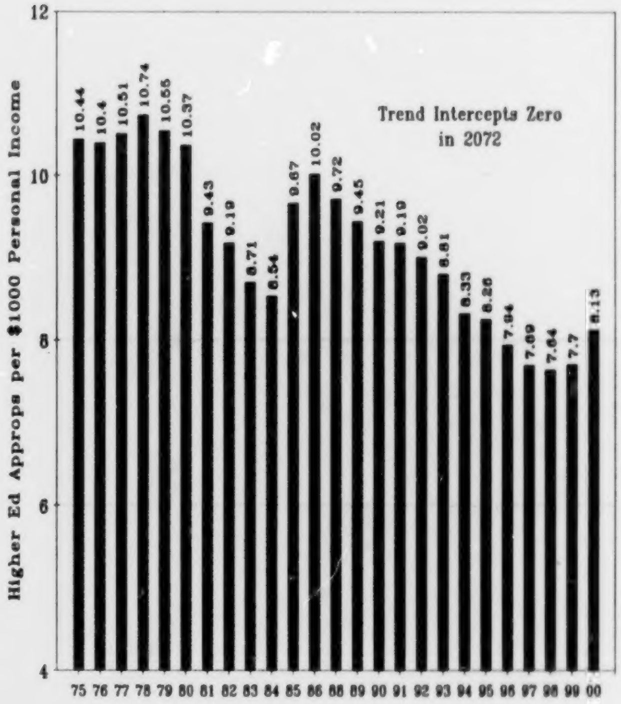

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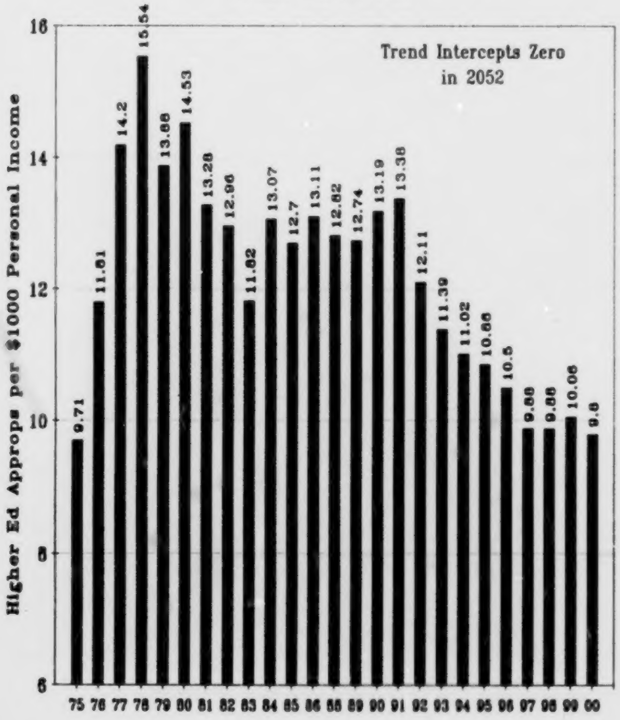

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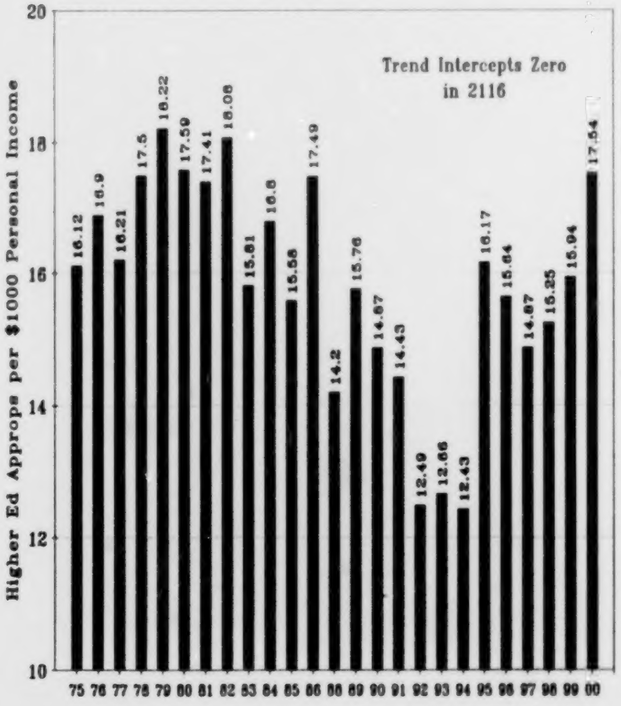

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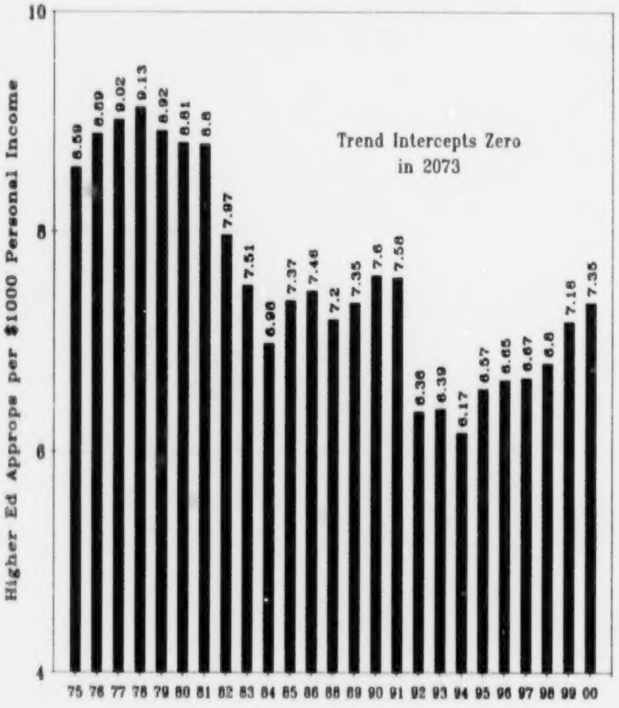
FY1975 to FY2000



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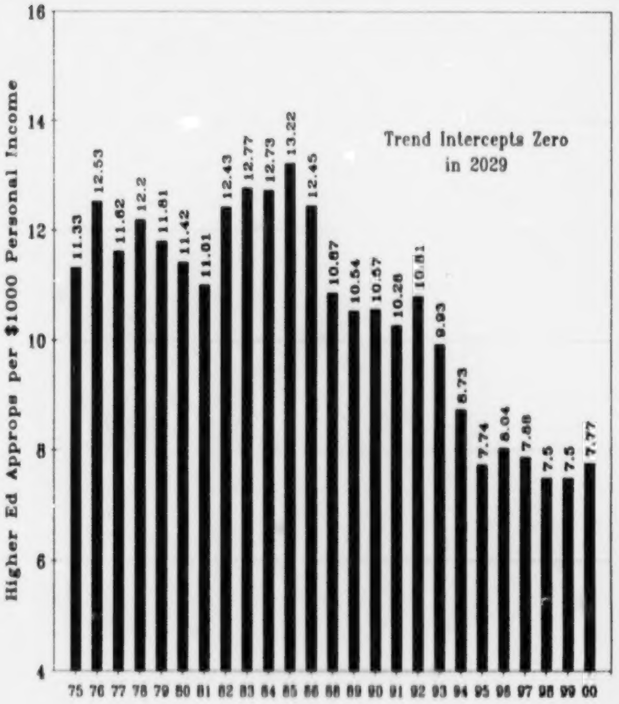
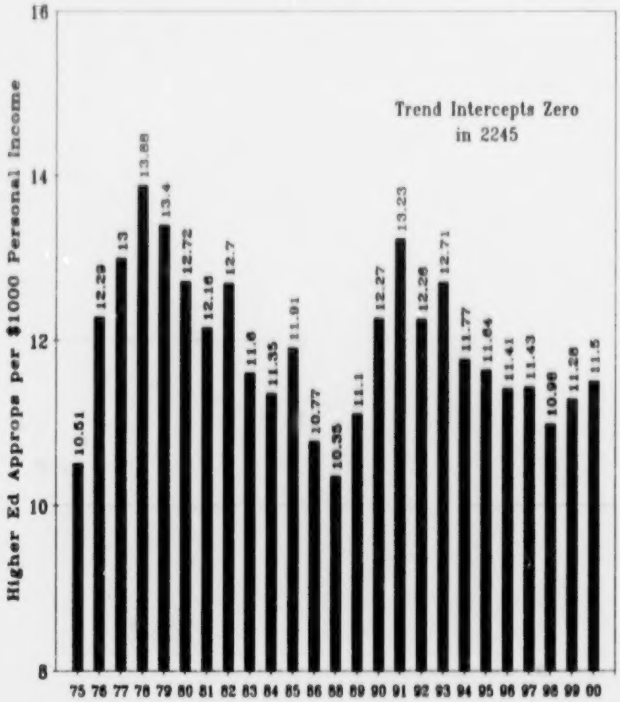


Nebraska Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income
FY1975 to FY2000



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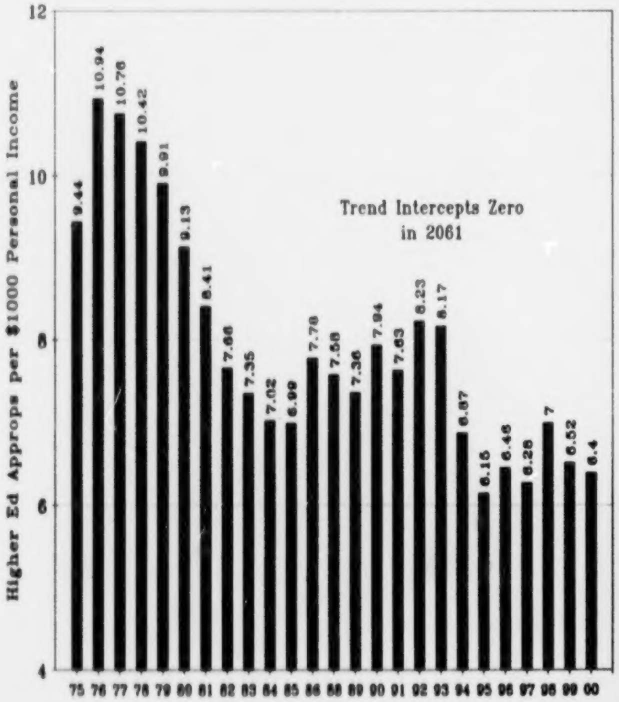
FY1975 to FY2000



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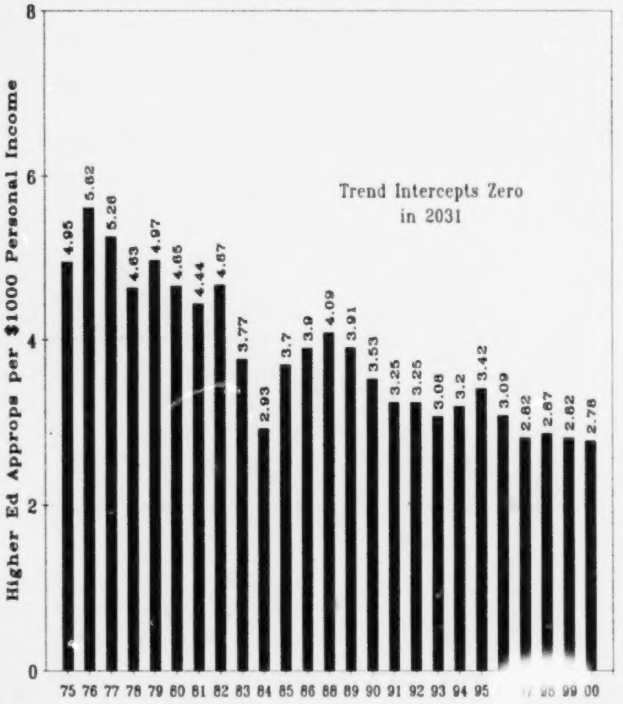

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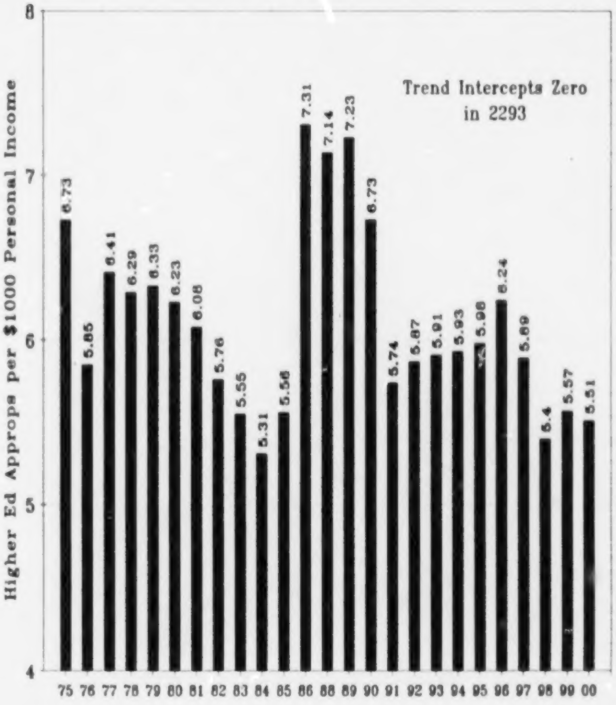

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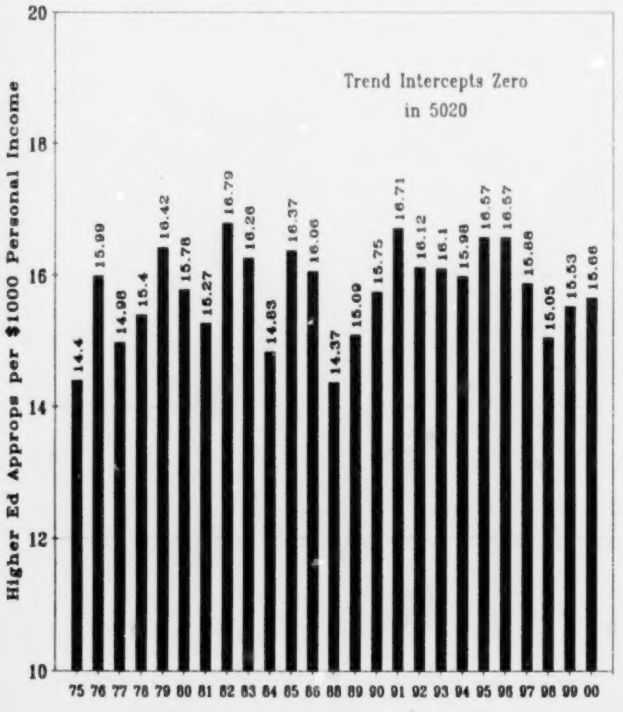

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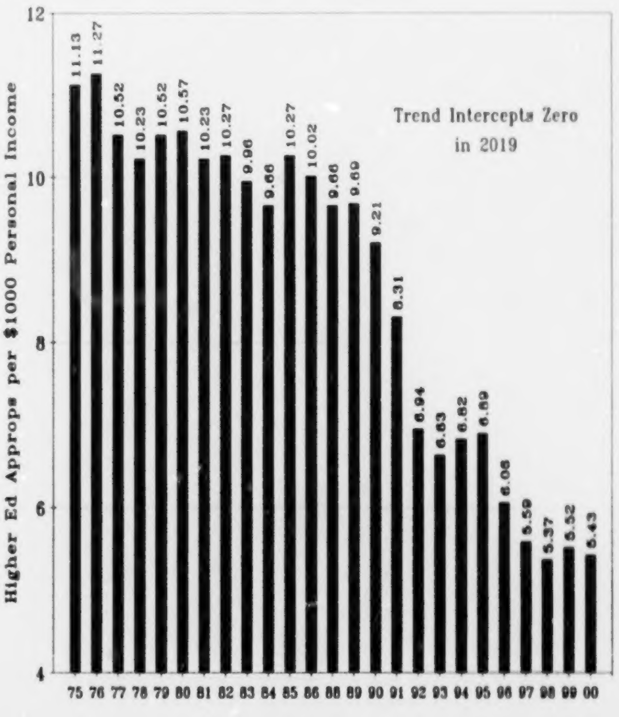

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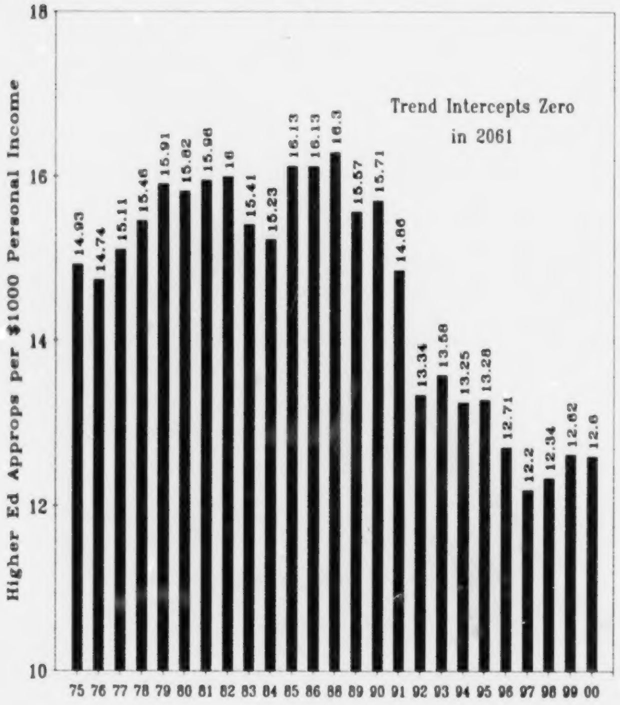

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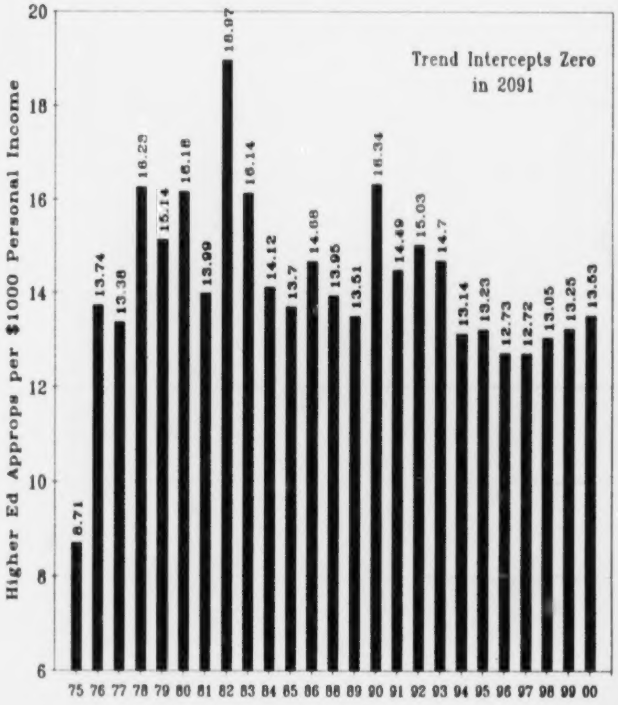

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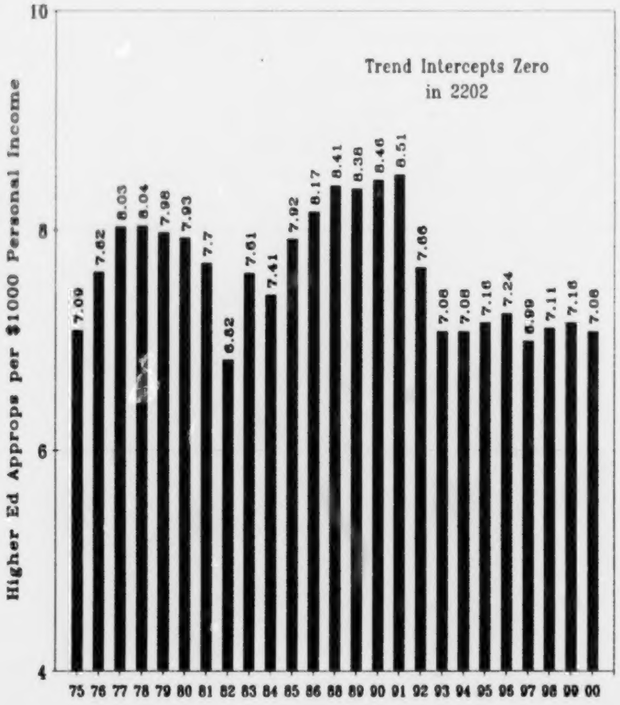

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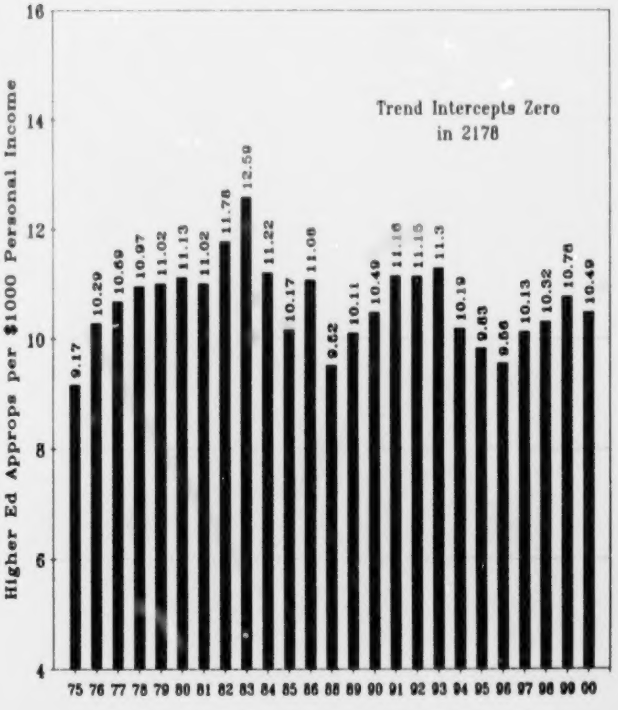

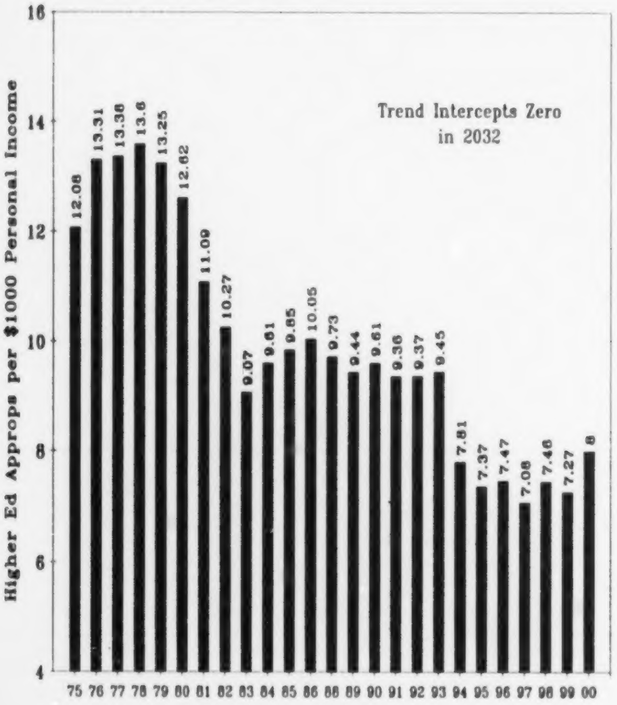
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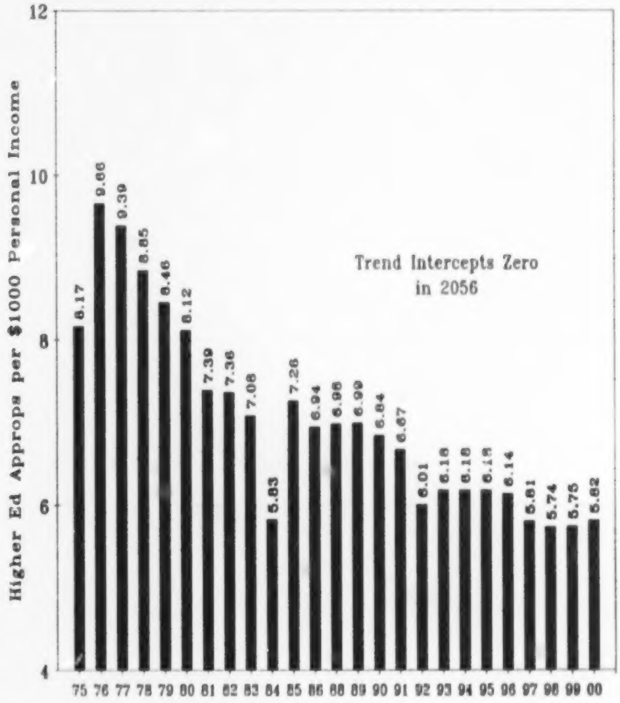
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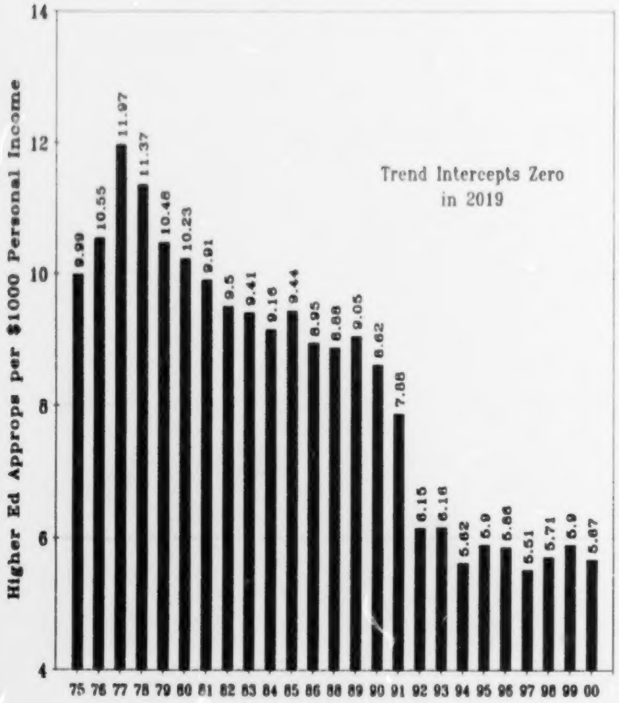
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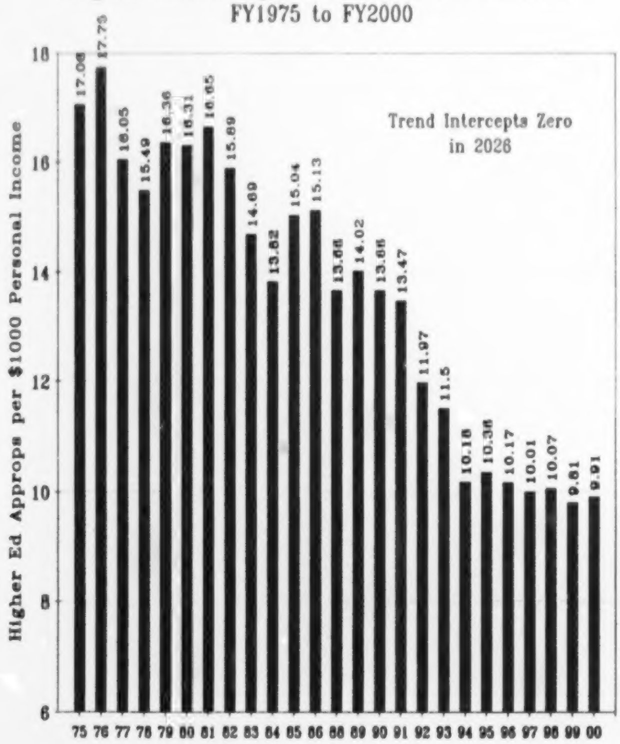
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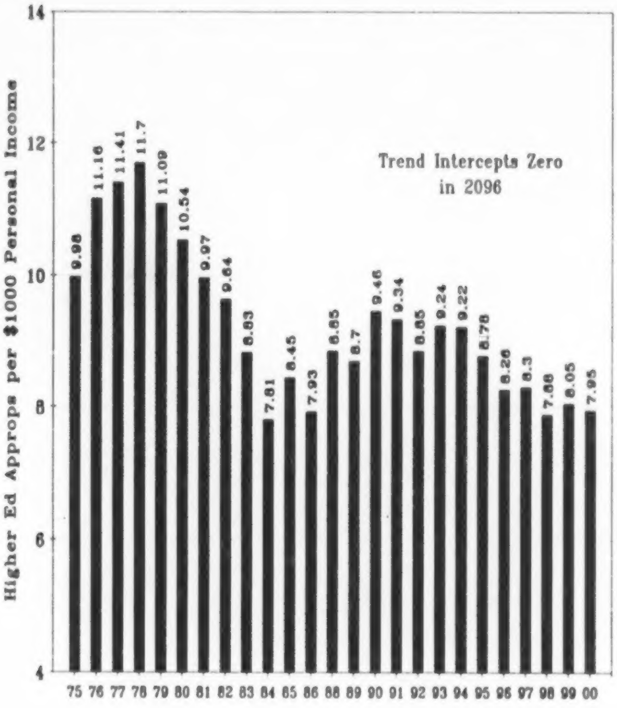
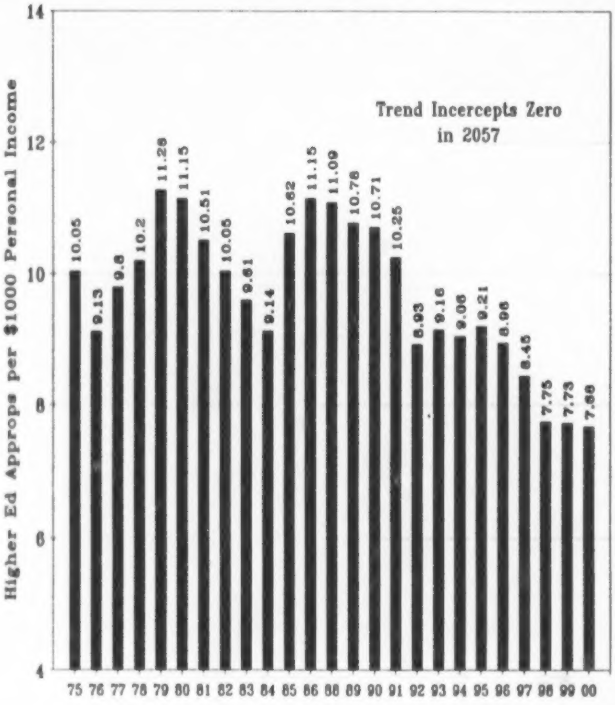
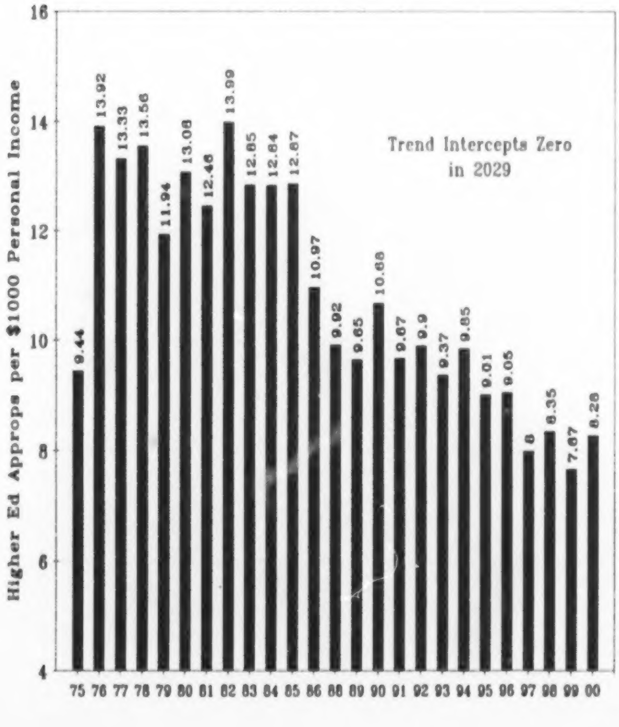
South Dakota Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Tennessee Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Texas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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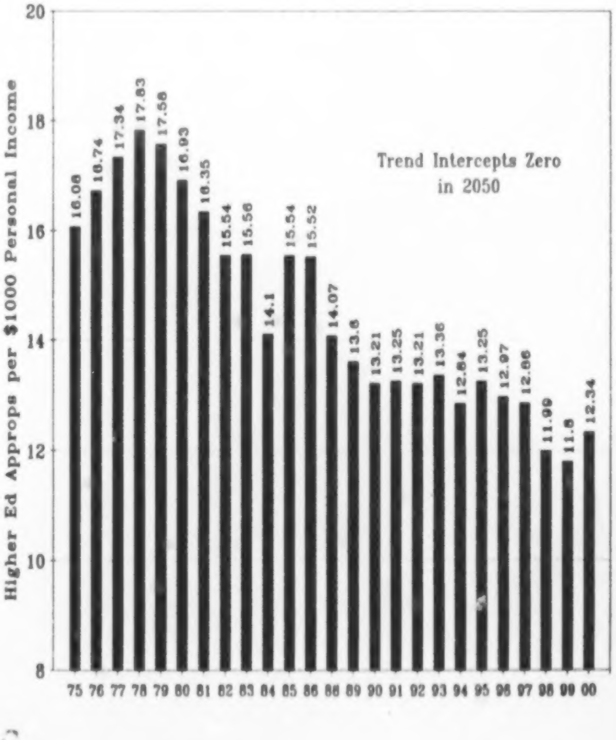
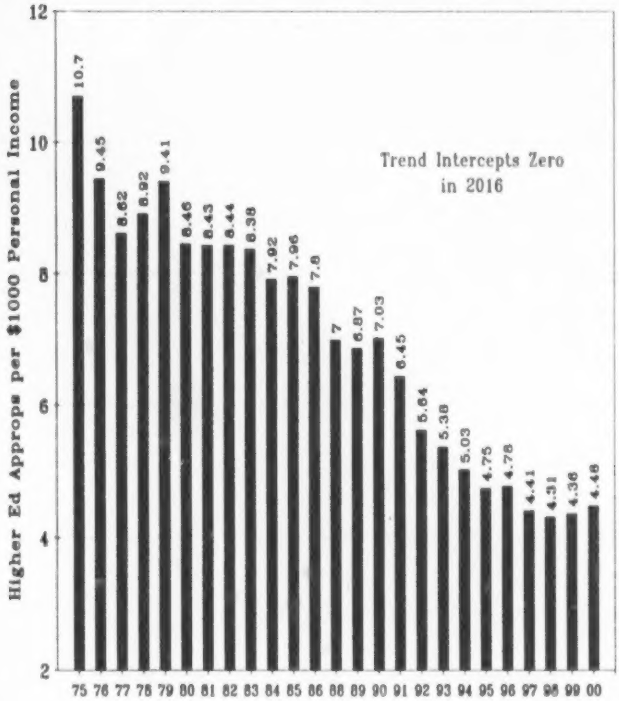
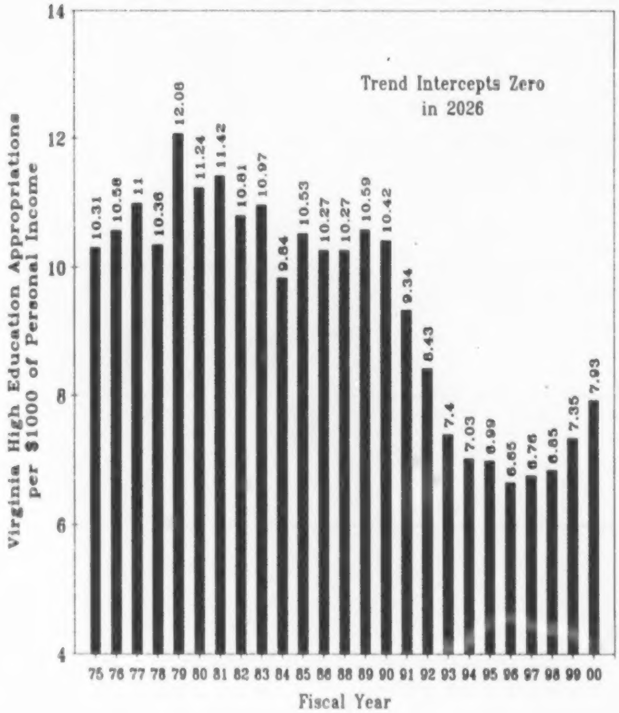


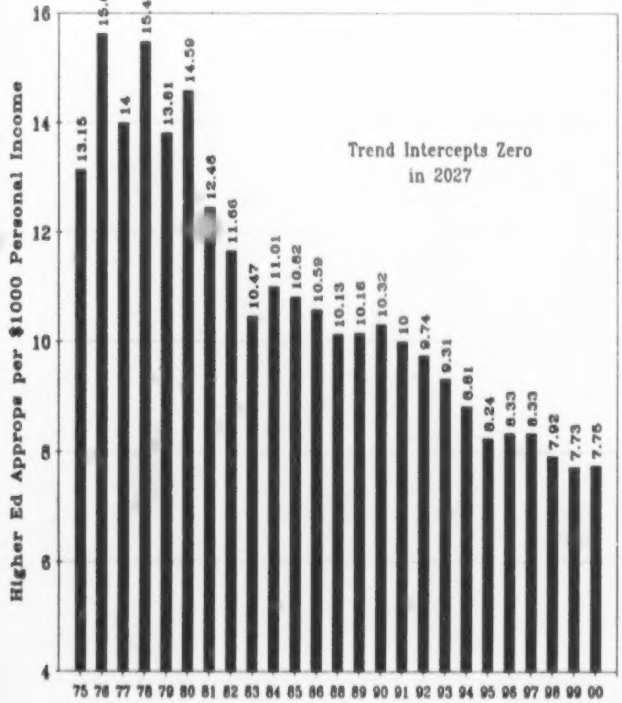
Vermont Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



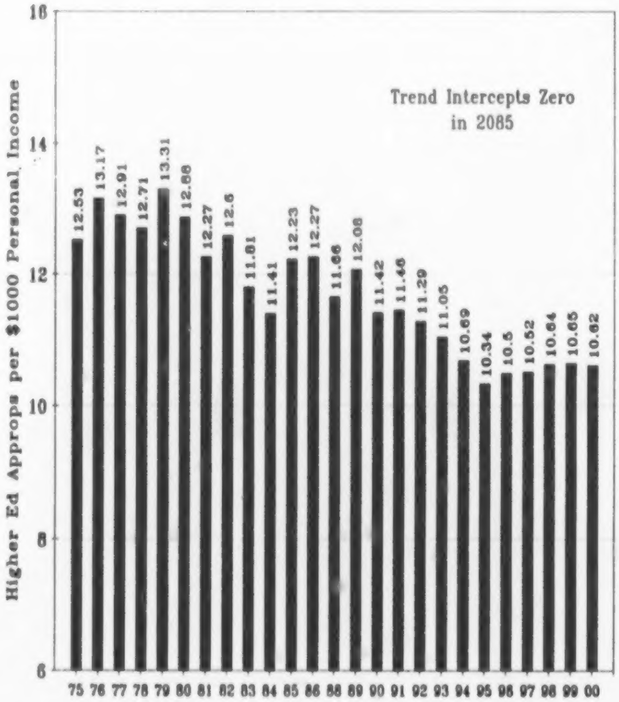
Virginia Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Washington Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



West Virginia Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



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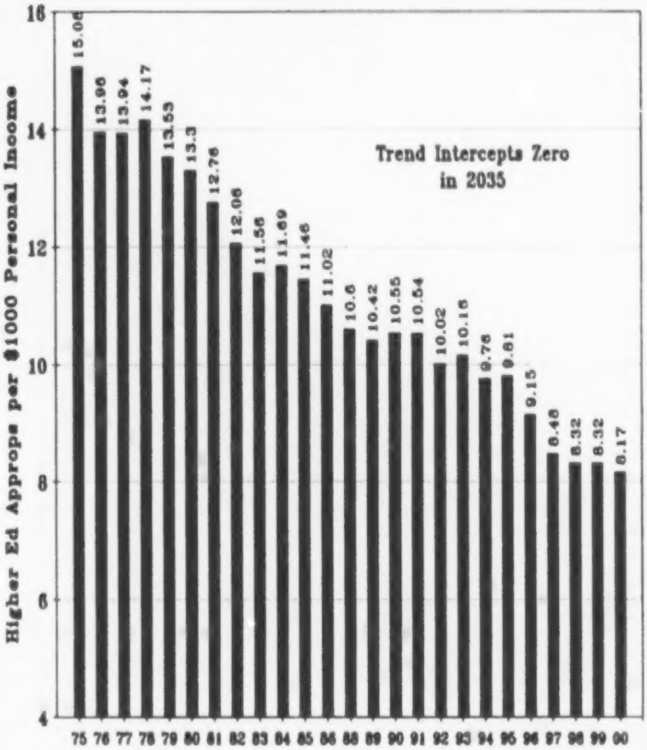
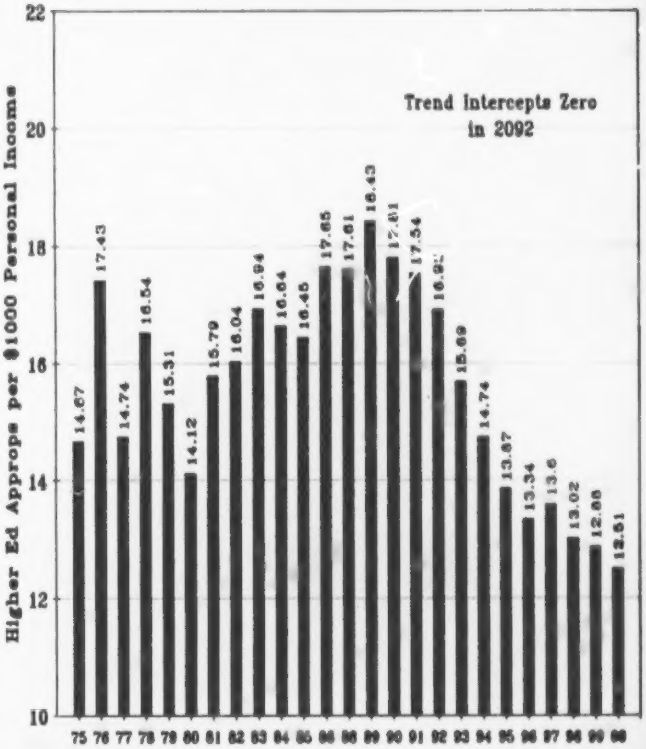


Wisconsin Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000



Wyoming Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY2000

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